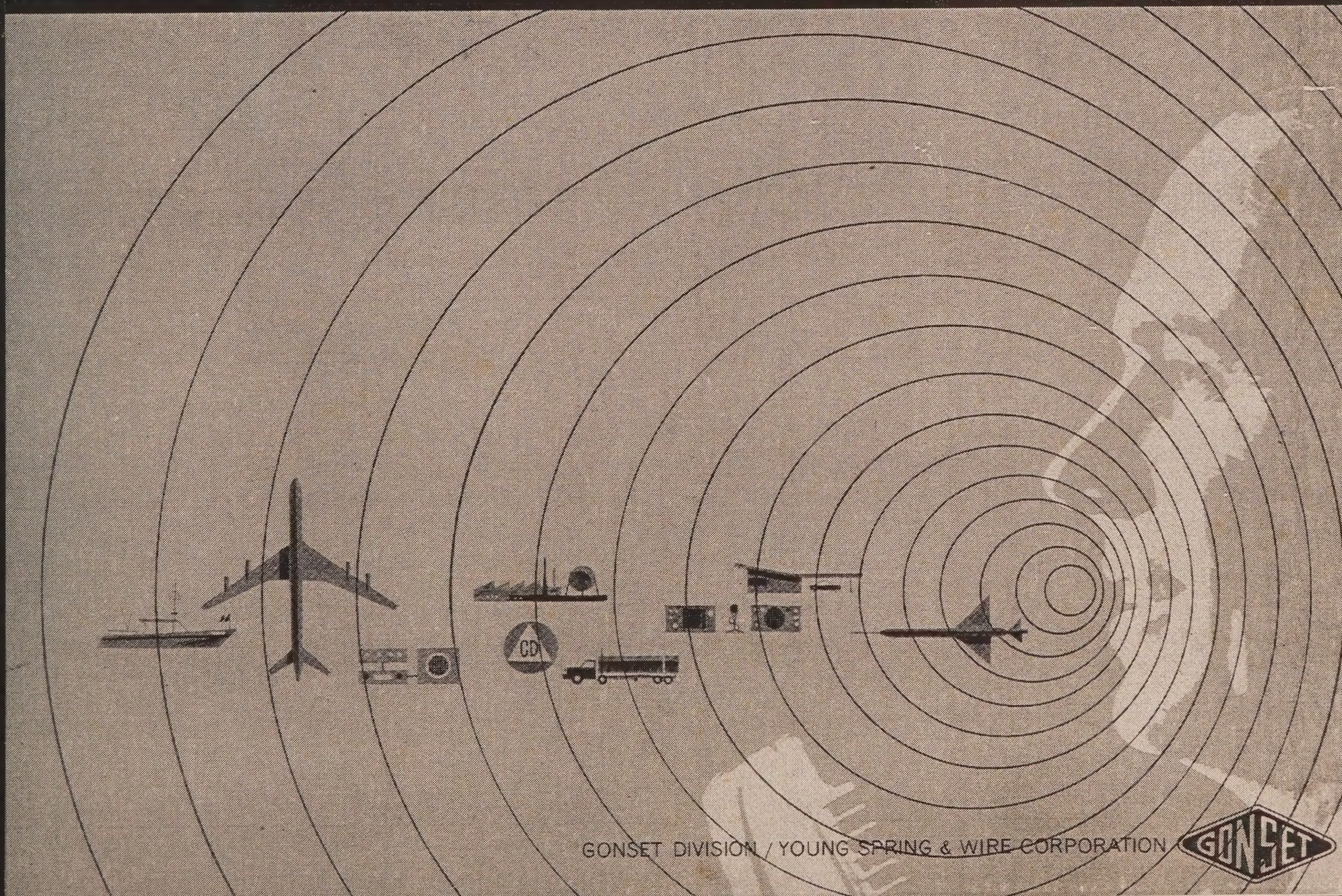
GONSET

INSTRUCTION MANUAL
G-76 MULTI BAND TRANSCEIVER MODEL 3338
G-76 AC POWER SUPPLY MODEL 3349
G-76 DC POWER SUPPLY MODEL 3350



GONSET DIVISION / YOUNG SPRING & WIRE CORPORATION

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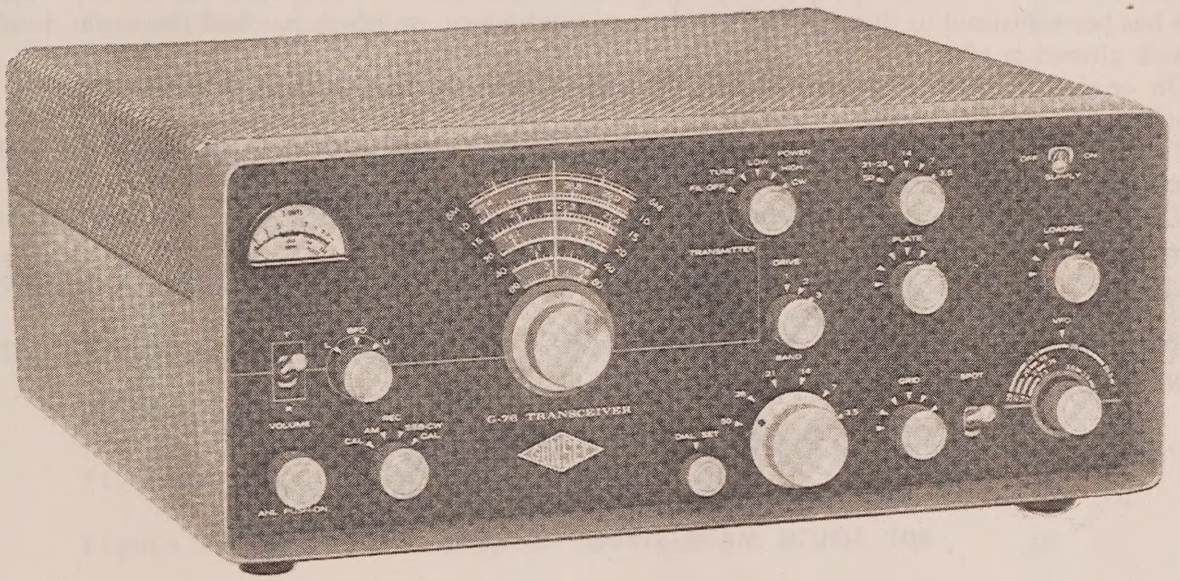

GONSET DIVISION

Young Spring & Wire Corporation

801 South Main Street

Burbank, California

MADE IN U.S.A.

Warranty Policy

The Gonset Division warrants its equipment, when properly registered, against defects in workmanship, materials, and construction under normal use and service for a period of 90 days from the date of original purchase. Under this warranty our obligation is limited to repairing or replacing any defective parts.

This warranty does not apply to any equipment which has been tampered with in any way, or which has been misused or damaged by accident or negligence, or which has had the serial number removed, altered or effaced.

On equipment employing a vibrator, all components are covered by the warranty with the exception of the vibrator itself.

This warranty is valid only when the enclosed card is properly filled in and returned within ten days from purchase date.

The Gonset Division reserves the right to discontinue or change, at any time, specifications, design or prices without notice and without incurring obligations.

DO NOT SEND EQUIPMENT TO THE FACTORY WITHOUT FIRST SECURING AUTHORIZATION TO DO SO.

THIS WARRANTY DOES NOT INCLUDE TRANSPORTATION COSTS TO AND FROM THE FACTORY.

GONSET DIVISION
YOUNG SPRING AND WIRE CORPORATION
801 SOUTH MAIN STREET, BURBANK, CALIFORNIA

DANGER, HIGH VOLTAGE

The voltage employed in this unit are sufficient to cause fatel shock under some conditions. Do not attempt to work on the unit out of the cabinet unless you are qualified to the extent of knowing what precautions to observe with regard to avoiding electrical shock.

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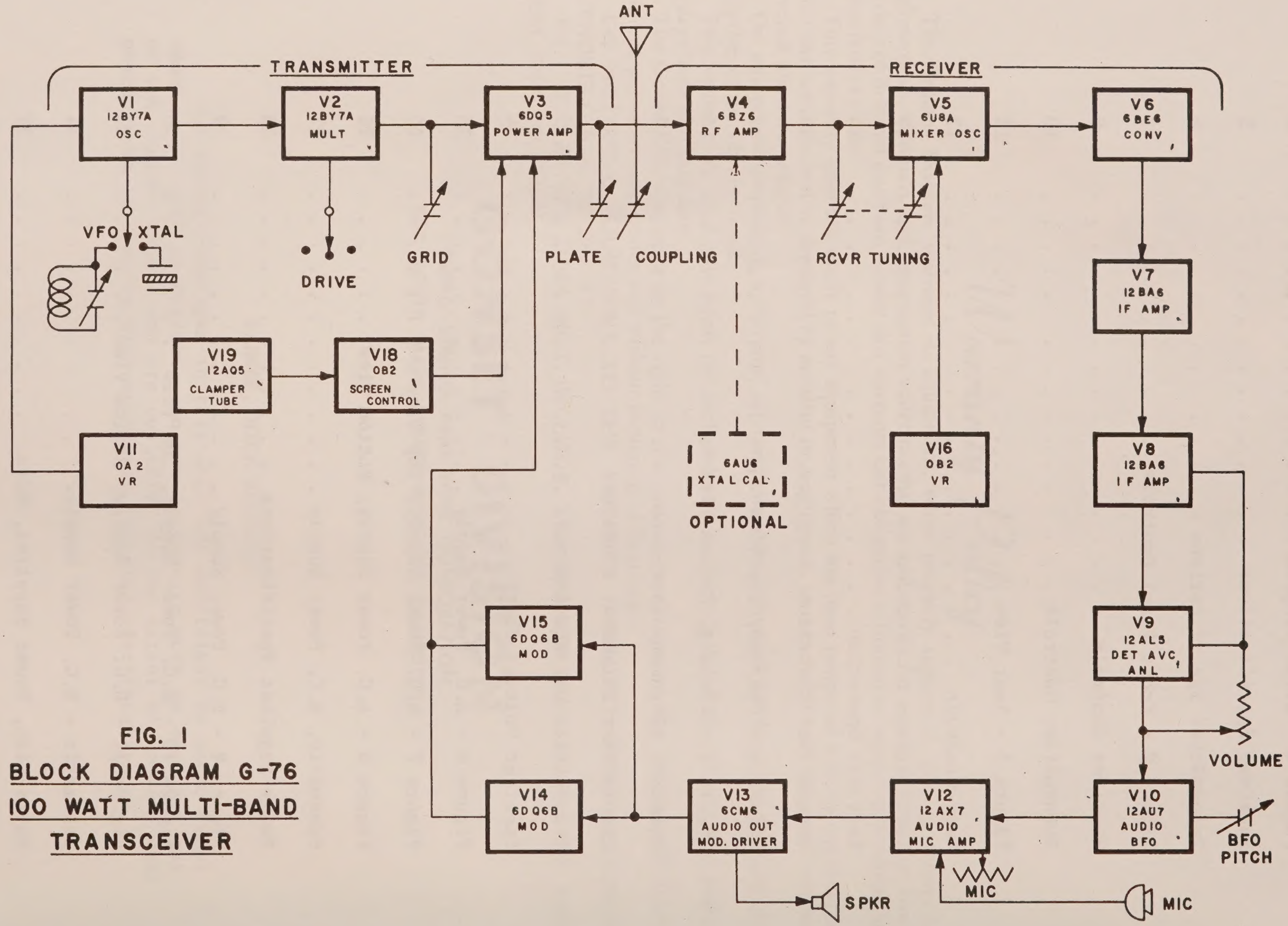


FIG. 1

BLOCK DIAGRAM G-76
100 WATT MULTI-BAND
TRANSCEIVER

505-254
A CHG.

RECEIVER SPECIFICATIONS

Frequency Ranges: Band 1 -- 3.5 - 4.0 megacycles

Band 2 -- 7.0 - 7.3 megacycles

Band 3 -- 14.0 -14.35 megacycles

Band 4 -- 21.0 -21.45 megacycles

Band 5 -- 28.0 -29.7 megacycles

Band 6 -- 50.0 -54.0 megacycles

Sensitivity: Approximately 1 µV at 50 Ω for 6 db signal-plus-noise to noise ratio.

Selectivity: 3 Kc. bandwidth at 6 db down, nominal.
14 Kc. or less, at 60 db down.

Image Rejection:

Typical Figures:

Signal Input	Image
3.5 Mc.	70 db down
7 Mc.	57 db
14 Mc.	58 db
21 Mc.	53 db
28 Mc.	48 db
50 Mc.	30 db

Stability: Oscillators (both transmitter and receiver) are temperature compensated for negligible frequency drift. Oscillator circuit permits exceptionally wide excursions in power supply voltage, both plate supply and heater supply, with negligible frequency shift. As much as 30% decrease, or 50% increase, may be tolerated even in single sideband reception. This feature is, of course, most important in mobile service. Mechanical stability is excellent.

Antenna Input: 50 ohms unbalanced (coax cable).

Intermediate Frequencies:

First I.F. . . . . 2065 Kc.

Second I.F. . . . . 262 Kc.

Audio Output: 2.5 Watts into 3.2 ohms.

Noise Limiter: Automatic type, switched in or out with front panel controls.

Accessories: 100 Kc. calibrator (Gonset Model 3269).
Microphone, High Impedance Ceramic Type (Gonset #3240)

TRANSMITTER SPECIFICATIONS

Frequency Range: 3.5, 7, 14, 21, 28 and 50 Mc. amateur bands.

V F O: Planetary vernier tuning, choice of crystal control when desired. VFO does not function on 50 Mc. band (8334-9000 Kc. crystal required for this band.) For other bands, crystal frequencies are as follows:

80M	1.75 or 3.5 Mc.
40M	1.75, 3.5 or 7 Mc.
20M	3.5 or 7 Mc.
15M	7-7.15 Mc.
10M	7-7.425 Mc.
6M	8.334-9 Mc.

Input Power: 6DQ5 Power Amplifier
100 Watts, amplitude modulated phone
120 Watts, CW.

Output Impedance: 50 ohms unbalanced (coax cable).

Power Requirements: (Gonset G-76 A.C. Supply - Model 3349).
(Gonset G-76 D.C. Supply - Model 3350).

(1) 12.6 volts A.C. or D.C. at 4.67 amperes. This reduces to 2.17 amps. when the transmitter function switch is set on "FIL OFF", thus allowing for reception only with minimum battery drain.

(NOTE: Transmitter oscillator tube is not turned off in this position.)

(2) 225-275 volts D.C. at 90 MA.

(3) 500-625 volts D.C. at 200 MA., resting current, 330 MA. on voice peaks. (250 MA. average drain on phone.

Dimensions: 12-5/8" wide, 5-1/8" high, 10-1/2" deep.

Shipping Weight: 21 pounds

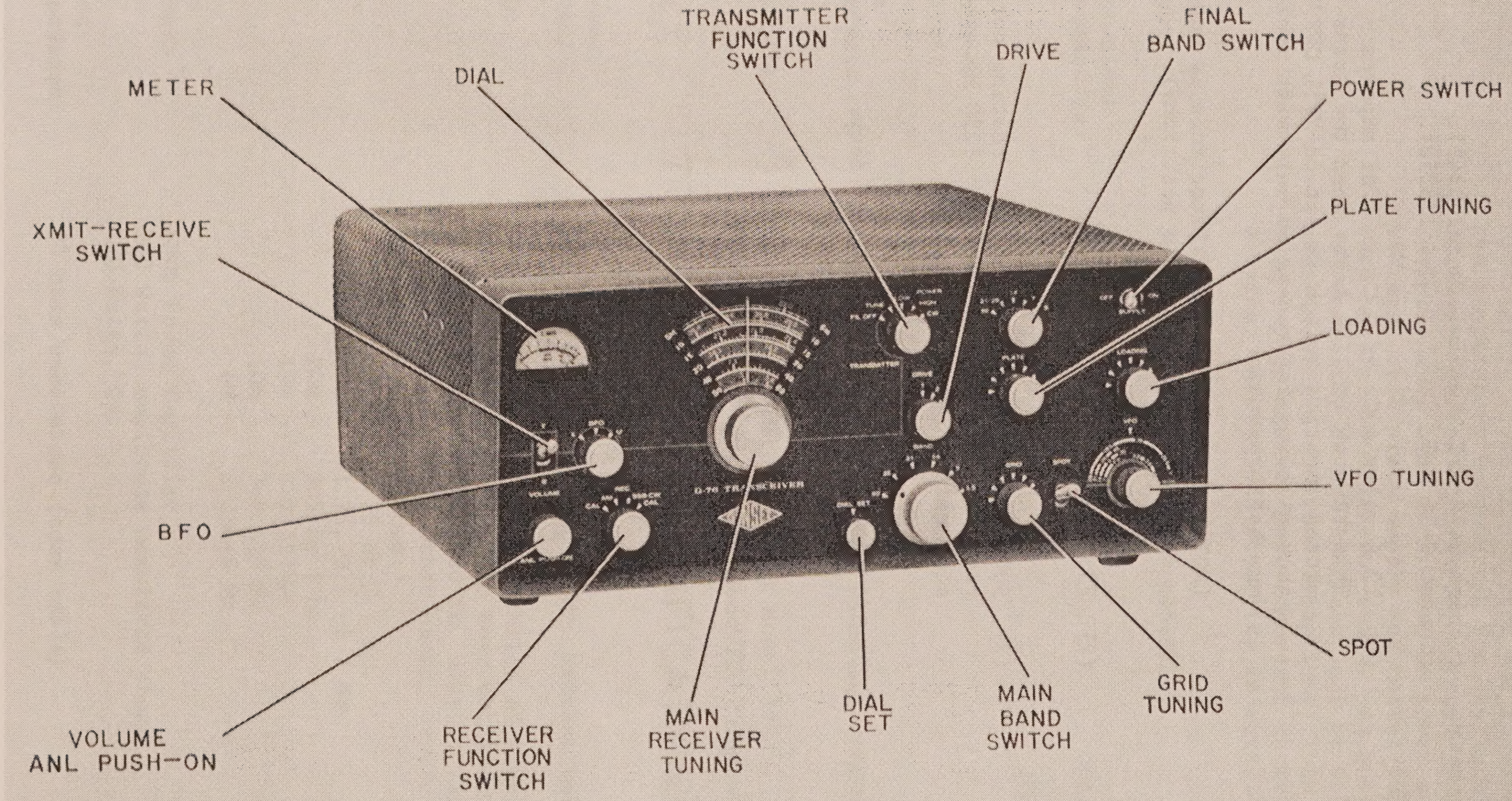


FIG. 2 FRONT PANEL CONTROLS

RECEIVER CONTROLS

Tuning Dial:	8:1 Planetary vernier. Dial scales printed on rotating disc.
Volume Control:	Functions as an audio gain control in A.M. reception and R.F. gain, or sensitivity control, in SSB or CW reception. The push-pull switch on this control switches the automatic noise limiter on (in) and off (out).
Function Control:	Position 1 AM Cal ON Position 2 AM Cal OFF Position 3 SSB-CW Cal OFF Position 4 SSB-CW Cal ON NOTE: The 100 Kc. calibrator (Gonset Model 3269) is a plug-in accessory available as optional equipment. It can be switched on in both A.M. and SSB-CW positions.
BFO Pitch Control:	Marked "L" and "U" to indicate approximately the positions for lower and upper sideband reception.
Dial Set:	For minor correction of dial calibration.
Bandswitch:	6 Ranges: 3.5-4 Mc., 7-7.3 Mc., 14-14.35 Mc., 21-21.75 Mc., 28-29.7 Mc., and 50-54 Mc. NOTE: This control also switches bands in the transmitter.
Bandswitch #2:	This control selects the frequency range of the pi matching system, which functions as receiver input circuit, and transmitter output circuit. It has 5 ranges, marked "3.5, 7, 14, 21-28, 50". Note that the 21 and 28 Mc. bands are included in the same position.

TRANSMITTER CONTROLS

Function Control:	
Position 1	FIL.OFF reduces heater drain when receiving only.
Position 2	Tune. Voltage applied only to oscillator. Mult. meter registers grid MA. to final amplifier.
Position 3	Low Power. Plate and loading should be adjusted inthis position to load to 2 or 3 on meter scale. Approximately 20 watts input to final A°M° phone.
Position 4	High power. Full HV applied to final and modulator. Approximately 100 watts A.M.
Position 5	CW. Voltage removed from modulator and modulation transformer shorted out. Approximately 120 watts input. NOTE: Meter reads total cathode current to final amplifier in Positions 4 and 5.
V F O:	Driven by a planetary drive on 3.5, 7, 14, 21 and 28 Mc. ranges. Not operative in the 50 Mc. band. Two sockets are provided for 6- meter crystals or external VFO.
Spot:	Toggle switch turns VFO on for monitoring frequency in receiver. Also functions with crystals when they are used.
Grid:	With function switch in "tune" position, this control is adjusted for maximum grid current, as indicated by the tuning meter.
Drive:	3 positions, marked "1-2-3", indicating low, medium and high respectively. After tuning "grid" for maximum grid current, the drive control is set to the position which falls within the grid current range on the meter scale.
Plate:	Tunes final plate circuit. With the function switch in low or high power, or CW position, tune plate control for dip in meter indication.
Loading:	Output capacitor of pi matching system. Adjust for increase in TUNE position for meter reading of 2 or 3 on the meter scale. adjust for final cathode current of 150 MA max, "plate" tuned for dip, function switch in high power position.
Main Supply Switch:	Heavy-duty toggle turns supply on or off.

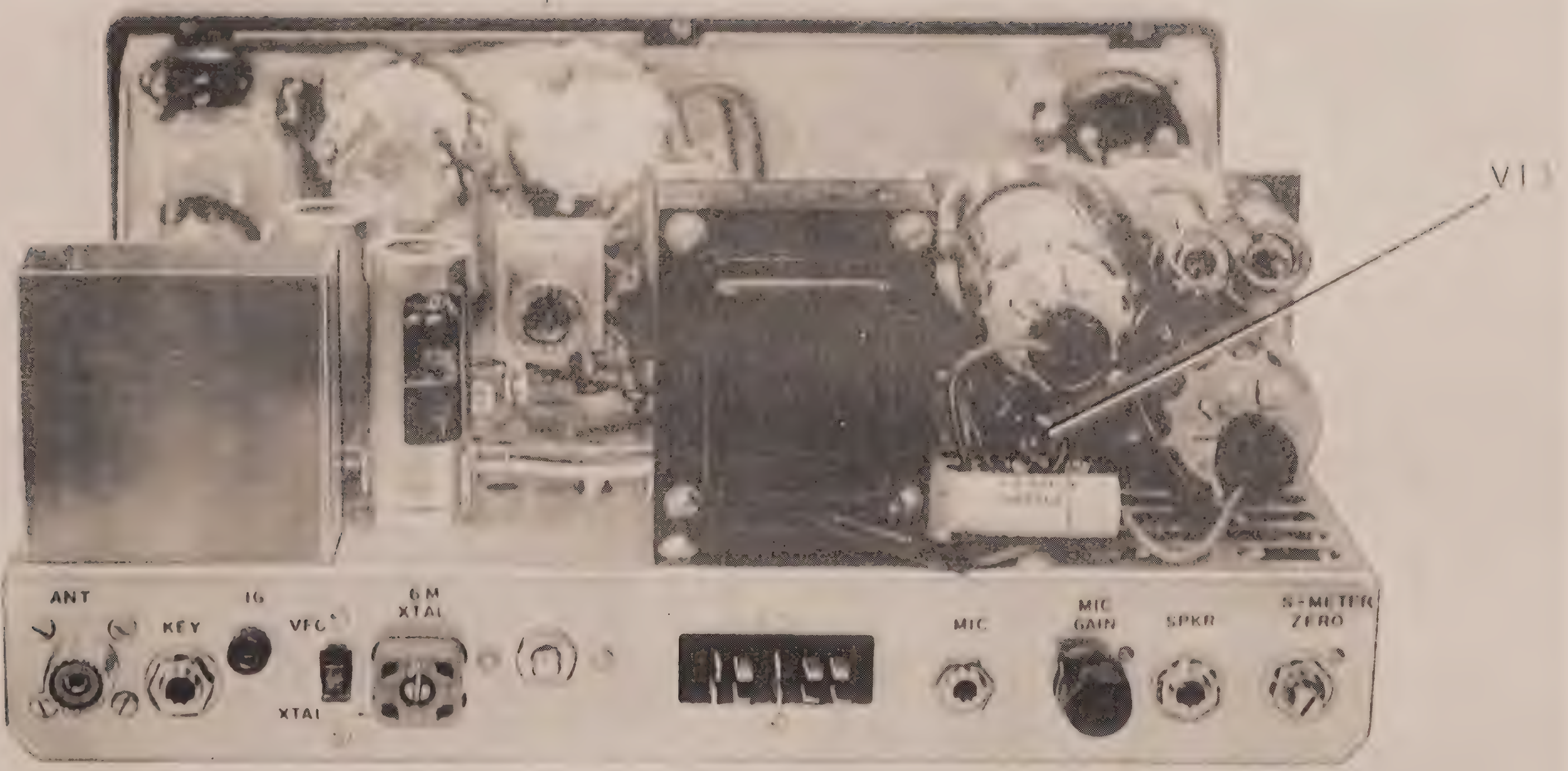


FIG. 3 REAR VIEW

REAR CONTROLS

CW Key Jack:	Driver Cathode Keying
Test Jack:	Final amplifier grid current. For metering grid current when final is operating. (Grid current is metered with panel meter when function switch is in "tune" position, but not when final is actually operating.)
VFO/Crystal Switch:	For switching from VFO to crystal operation.
Crystal Socket:	Dual type for low frequency bands and 6-meter band. (VFO does not operate in 6-meter, 50 Mc. band.) NOTE: Two crystals may be inserted in this dual socket for 6 meters, and selection between them made with the VFO crystal switch.
Power Connector Plug	
Microphone Jack	
Microphone Gain Control	
Speaker Jack	
S Meter Zero Adjust	
Antenna Connector Jack	UHF, coax type SO-239.

INSTALLATION

After unpacking the Gonset G-76 Transceiver, check to make sure all tubes are in place. Check all controls for normal movement. Turn main power switch to OFF position.

For fixed-station operation, connect the Gonset G-76 A.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting A.C. cord to power line.

For mobile operation, connect the Gonset G-76 D.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting positive and negative terminals of power supply to 13.4 volt D.C. source.

(3) Connecting 3.2 ohm speaker to speaker jack at back of chassis.

High voltage to final amplifier and modulator does not appear anywhere in the transceiver proper until the T/R relays close. A relay built into the A.C. power supply, and the D.C. power supply, disconnects the H.V. lead from the supply and grounds it. Thus, when in receive position, the highest voltage present in the transceiver is the nominal 275 volts D.C. from the medium voltage supply. The protective H.V. relay in the power supply is energized when the T/R relays in the transceiver close.

The T/R relay will not operate when the transmitter function switch is in the "FIL OFF" position. In this position, heater current to the modulators and final amplifier is disconnected, conserving battery power when receiving only, and also preventing accidental tripping of the T/R button of the microphone.

The T/R relays will not operate when the VFO "SPOT" switch is on. The transmitter will not operate in the "SPOT" position due to lack of excitation, and final amplifier tube failure could occur before it is realized that the VFO switch was unintentionally left on the "SPOT" position. With the built-in safety feature, the T/R relays will not function until the VFO switch is down in the operate position.

The A.C. power supply includes a high voltage slo-blo fuse to protect it from high voltage short circuits, as well as a fused line plug.

RECEIVER OPERATION

Amplitude Modulated Signals:

(A) Supply Switch.................On.

(B) T/R Switch...................Receive position.

(C) Function Control.............Position 2.

(D) ANL..........................OFF or ON, as required.

(E) Bandswitch #1................Set to desired range.

(F) Bandswitch #2................Set to desired range.

(G) Tuning Dial..................Adjust for maximum "S" meter reading on desired signal.

(H) Plate and Loading Adjustment..........When using the G-76 for receiving only, the Pi network should be adjusted for maximum "S" meter reading on a signal. IMPORTANT: See Note (4) Operating Notes.

(I) Volume Control...............Set to desired volume level.

Single Sideband Signals:

(A) Supply Switch................On.

(B) T/R Switch...................Receive position.

(C) Function Control.............Position 3.

(D) Bandswitch #1................Set to desired range

(E) Bandswitch #2................Set to desired range.

(F) BFO Frequency................Set to "U" for upper sideband, or "L" for lower sideband.

(G) Tuning Dial..................Adjust for most natural voice quality.

(H) Volume Control...............Set to desired volume level.

CW Code Signals:

(A) Supply Switch................On.

(B) T/R Switch...................Receive position.

(C) Function Control.............Position 3.

(D) Bandswitch #1................Set to desired range.

(E) Bandswitch #2................Set to desired range.

(F)	BFO Frequency	Set to either "U" or "L" mark.
(G)	Tuning Control	Adjust for maximum loudness of desired CW signal. Then go back to the BFO control and set it for desired pitch. This adjustment need only be made when it is found desirable to change pitch.
(H)	Volume Control	Set to desired volume level.

OPERATING NOTES:

(1) To check tuning dial calibration accuracy, switch the calibrator on (receiver function control, Positions 1 or 4), and locate the nearest 100 Kc. marker signal on the dial. Ordinarily the dial set control will set very close to 12 o'clock (straight up) when the tuning dial is reading correctly. With long-term aging effects, humidity, etc., dial accuracy may gradually shift, requiring compensation with the dial set control to varying degrees on each band. Eventually, the oscillator adjustments should be reset to restore original dial accuracy (See alignment procedure). These effects are generally spread over many months of operation. Note that the 100 Kc. calibrator (Gonset Model 3269) is an optional plug-in accessory and must be purchased as an extra.

(2) If it is not known which sideband a station is transmitting, it may be necessary to first try one side, and then the other. It will be found that when the BFO is set to the wrong side, the signal cannot be tuned to an understandable point. In such a case, move the BFO control to the other side, and adjust the tuning dial again until a natural voice is heard.

(3) Pi input circuit (plate tuning and loading) may be adjusted for maximum sensitivity. However, these adjustments are mose effectively made while adjusting the transmitter.

(4) Whenever the Pi controls have been adjusted for transmitting on a particular band, DO NOT READJUST WHEN RECEIVING. These controls are fairly broad for receiving, and each amateur band may be tuned over the entire range without readjustment. For transmitting these controls are quite sharp and critical. Thus, once they are adjusted for transmit, they should be left along while receiving.

TRANSMITTER OPERATION

CAUTION: The following steps must be followed in sequence to prevent damage to the final amplifier.

Amplitude Modulated Signals:

(A) Power Switch..............On.

(B) Tune receiver to desired frequency.

(C) Spot Switch..............Spot position and adjust VFO for maximum meter indication.

(D) Spot Switch..............Off.

(E) Loading Control..........Minimum or CCW.

(F) Transmitter Function Switch..."Tune" Position.

(G) Drive Control..............Position 1 on 80, 40 & 20 meters.
Position 2 or 3 on 10, 15 & 6 meters.

(H) T/R Switch.................Transmit position.

(I) Grid Tuning................Maximum meter indication.

(J) Drive Control..............Set to position corresponding to IG range on meter scale. (NOTE: Minimum of 1/2 to 2 miles as measured at IG meter jack on rear of unit).

(K) Transmitter Function Switch...Low Power

(L) Plate Tuning...............Quickly adjust for sharp dip in meter reading.

(M) Plate Loading..............Increase gradually while adjusting plate control for meter dip until meter reads between 2 and 3.

(N) T/R Switch.................Off

(O) T/R Function Switch........High Power

(P) T/R Switch.................ON

(Q) Loading Control............Increase gradually while adjusting plate control for meter dip, until meter reads 150 MA max.

Caution

Do not change function switch from low to high or high to low power with T/R switch in "ON" position.

CW Signals:

(A) Follow above steps for amplitude modulated signals.

(B) Transmitter Function Switch.....CW position.

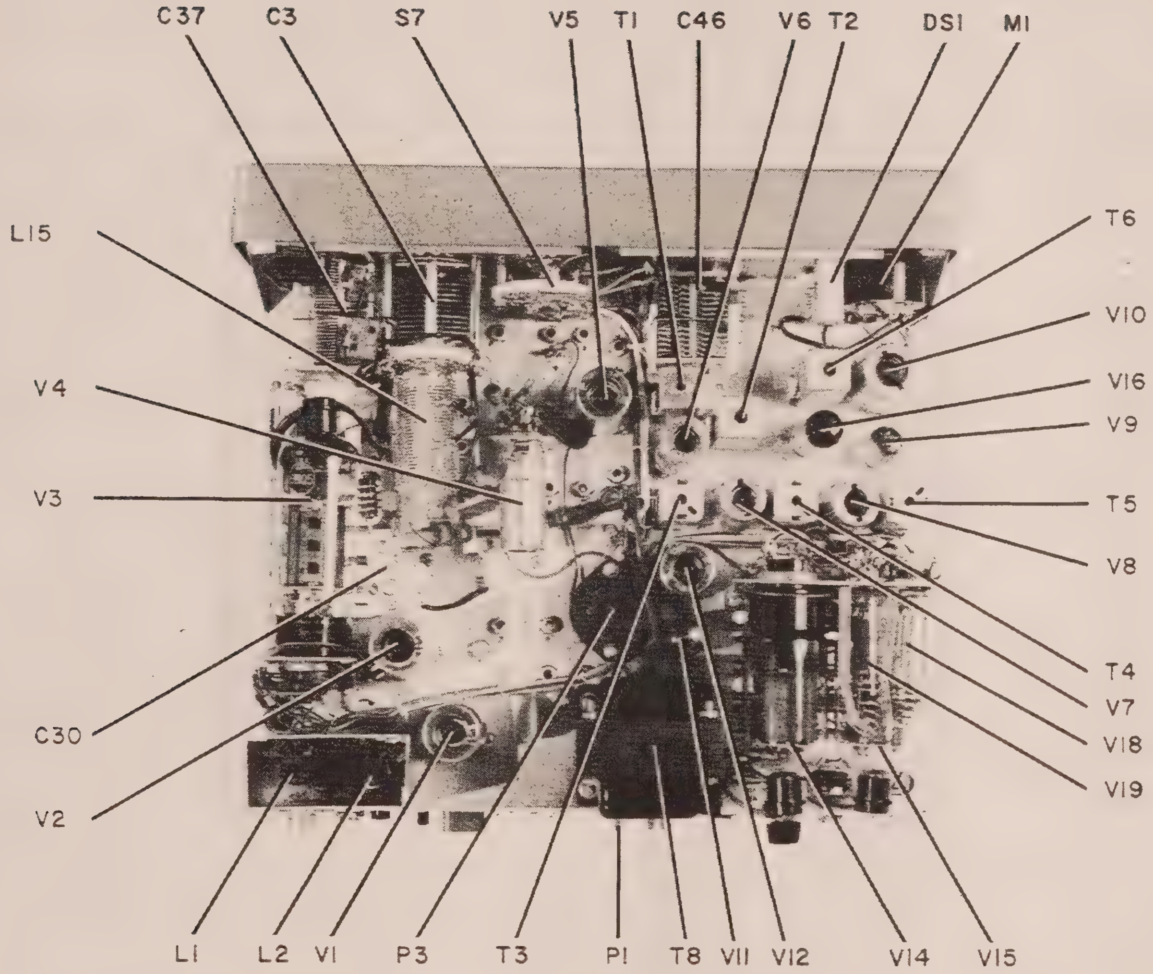


FIG. 4 CHASSIS, TOP VIEW

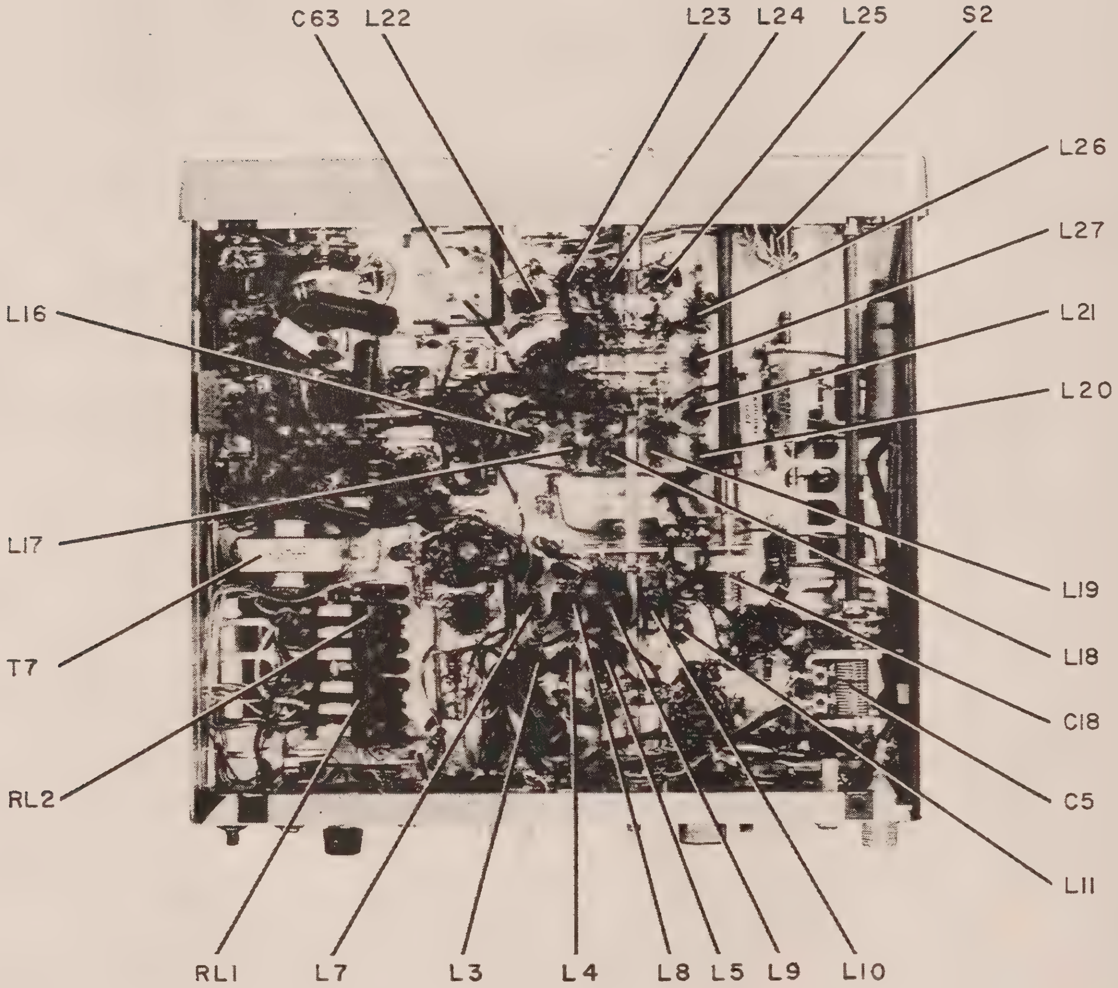


FIG. 5 CHASSIS, BOTTOM VIEW

RECEIVER ALIGNMENT

(Trans. Function Switch at "FIL.OFF")

Step #1

262 Kc. I.F. (1) Connect Signal Generator to Pin 7 of 6BE6 (V6). Use blocking capacitor to protect generator. Approximately .01 mfd. Peak I.F. transformers, T3, T4 and T5 top and bottom, for maximum AVC. Receiver function switch in "AM" position.

(2) After peaking T3, T4 and T5, switch receiver function to "CW-SSB". Set BFO control to 12 o'clock. Adjust T6 (top adjust. only) for zero beat with signal generator. (Generator still set to 262 Kc.)

Step #2

2065 Kc. I.F. Receiver Function set to "AM".

(1) Connect Signal Generator to Pin 2 of 6U8A (V5). Set generator frequency to exactly 2065 Kc. Adjust 2327 Kc. Oscillator (T2) until signal appears.

(2) With Signal Generator set to 2065 Kc., adjust transformer, T1, Top and Bottom, for peak AVC.

Step #3

50 Mc. band alignment...Connect Signal Generator to antenna connector on rear of chassis. Bandswitches both set to "50 Mc." position. Receiver function selector set to "AM" position. Dial set control at 12 o'clock. Set receiver tuning dial to 50 Mc. position. Set signal generator to exactly 50 Mc. (Or, preferably, use a crystal-controlled signal at 50 Mc., or some sub-multiple of 50 Mc.)

(1) Adjust receiver oscillator coil, L27, until signal tunes in at 50 Mc. point on tuning dial.

(2) Set signal generator to exactly 54 Mc. and check high frequency end of tuning dial. Signal should appear at 54 Mc. mark. If it does not, adjust trimmer, C63, until it does.

(3) Go back and check 50 Mc. By adjusting coil, L27, at 50 Mc., and trimmer, C63, at 54 Mc., repeat until 50 and 54 Mc. appear at their respective markings on the dial.

(4) Adjust coil, L21, for maximum AVC voltage.

(5) Recheck 50 and 54 Mc. points for possible interaction from L21 adjustment.

(6) Pi input circuit (plate tuning and loading) may be peaked for maximum AVC, although this is not essential unless sensitivity measurements are being conducted.

Step #4

Alignment, HF bands...After the 50 Mc. VHF band has been properly aligned, as per Step 3, the other bands may be aligned. Following the accompanying chart, adjust the oscillator and mixer coils at the given frequencies.

Band	Sign. Gen. Freq.	Oscillator Coil	Mixer Coil
28 Mc.	28.7	L26	L20
21	21.3	L25	L19
14	14.2	L24	L18
7	7.2	L23	L17
3.5	3.8	L22	L16

Adjust the oscillator coils until the generator signal appears at the correct dial position. Then adjust the mixer coil for maximum signal. Finally, recheck the oscillator setting for possible interaction from mixer tuning.

Note that the 5 HF bands have only one oscillator adjustment. Trimmer C63 is to be used only for tracking the 50-54 Mc. band, after which the HF bands should track closely. If any of the HF bands do not track closely, it means that capacity tolerances are off, and a capacitor change may be necessary.

The Pi input circuit need not be tuned for peak signal when adjusting the oscillator or mixer. For sensitivity measurements, however, the Pi network should be set to the proper band, and adjusted for maximum signal.

Sensitivity of the G-76 receiver section will measure approximately 6 db signal-plus-noise to noise ratio with an input of 1 microvolt at 50 ohms.

Image Rejection, typical figures:

60 db at 3.5 Mc.
60 db at 7 Mc.
50 db at 14 Mc.
45 db at 21 Mc.
40 db at 28 Mc.
30 db at 50 Mc

The primary image will occur at a frequency 4.13 Mc. higher than the desired signal, except in the 50-54 Mc. band, where the image will occur 4.13 Mc. below the signal.

Selectivity: 3 Kc. at 6 db down, nominal. Less than 14 Kc. wide at 60 db down.

TRANSMITTER ALIGNMENT

Step #1 - VFO Adjustment

(1) Set bandswitches to 7 Mc. and receiver function switch to A.M. Set receiver tuning dial to 7 Mc. Set VFO crystal switch on rear of chassis to VFO position. Throw VFO spot switch up to "SPOT" position. Set VFO control to 7 Mc. and adjust L1, top of rear - right shield can, until a strong signal is received. This adjustment sets the VFO frequency for the 3.5-4 and 7-7.3 Mc. bands.

(2) Set bandswitches to 14 Mc., receiver function to A.M., and receiver tuning dial to 14 Mc. Set VFO control dial to 14 Mc. and throw switch to "SPOT" position. Adjust L2, top of shield can next to L1, until a signal is received. This adjustment sets the VFO for the 14-14.35, 21-21.45 and 28-29.7 Mc. bands.

NOTE: The 50 Mc. band does not use the VFO, but requires a crystal of 8.334 to 9 Mc. frequency inserted in the upper crystal position at the back of the chassis. Crystals may be used on the lower HF bands by inserting them in the lower crystal position, and switching the rear slide switch down to the "Xtal" position.

Step #2 - Oscillator Plate and Multiplier Adjustment

(1) 80 Meters...set transmitter function switch to "TUNE" position, "SPOT" switch down, bandswitches at 3.5 Mc. position, and VFO dial at 7 Mc. Set "DRIVE" control at Position #1. Throw T/R toggle switch up to the transmit position. In the tune position, only the 12BY7's in the oscillator and multiplier stages are functioning, so there is no concern for the final amp. or modulator at this time. Adjust the "Grid" tuning for maximum meter indication. At 4 Mc. the grid tuning capacitor should be nearly open. The adjustable core of L7 should be left at a position where both 3.5 and 4 Mc. can be peaked with the grid tuning dial.

(2) 40 Meters...set bandswitches to 7 Mc. position, and VFO dial to 7 Mc. with T/R switch in "T" position, adjust "Grid" tuning for maximum meter reading. This should occur with the grid tuning capacitor about 80% meshed. Adjust Coil L8 for this condition. Now, set the VFO to approximately 7.2 Mc. and adjust Coil L3 for maximum meter reading. L3 is the oscillator plate coil.

(3) 20 Meters...set bandswitches to 14 Mc. and VFO dial to 14 Mc. With the T/R switch up in the "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 80% meshed. Coil L9, associated with this band, is not adjustable. This test merely serves as a check on L9 and its associated capacitor C21.

(4) 15 Meters...set bandswitches to 21 Mc. and VFO dial to 21.25 Mc. With the T/R switch in "T" position, adjust grid tuning for maximum meter reading. This should occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L4, the oscillator plate coil for maximum meter reading.

(5) 10 Meters...set bandswitches to 28 Mc. and VFO to 29 Mc. With T/R switch in "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L5, the oscillator plate coil, for maximum meter reading.

(6) 6 Meters...set bandswitches to 50 Mc. Insert a 6-meter crystal in upper crystal socket. Its frequency must be between 8334 and 9000 Kc., preferably somewhere in the lower part of this range. Switch to "T" position and adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed.

Step #3 - Final Power Amp. Adjustment

(1) Connect dummy load, 52 ohm impedance to antenna jack.

(2) Set neutralizing capacitor tentatively to about 25% mesh.

(3) Set bandswitches to 3.5 Mc., VFO dial to 3.8 Mc., tune grid circuit, as per preceding instructions. After peaking grid current (meter reading) with the grid tuning dial, set the drive control to position which provides a meter reading nearest to the "1G" range on the meter scale. On 80 meters, this will most likely be with drive in Position 1.

(4) Turn the loading control to minimum, CCW position. Now set the transmitter function switch to low power, and T/R switch to "T" position. Quickly adjust plate tuning for a sharp dip in meter reading (1P). Now switch to high power position. CAUTION: Dangerous voltages are present in the circuitry at this time. Keep hands out!

The output power indicator (watt meter) should now be indicating about 30 watts of power. Gradually increase the loading control, at the same time carefully tuning the plate control for meter dip, until the meter reads 150 to 160 MA. This is the operating range for A.M. phone in the high power position. Power input to the 6DQ5 is now approximately 100 watts.

(5) Repeat the above procedure on each of the other bands. Always keep the plate tuning adjusted for the dip in meter reading, particularly in the high power position, as the 6DQ5 can be seriously overloaded if this is not done.

(6) Neutralization. This adjustment must be a compromise, since it changes slightly between bands. Tentatively, make neutralizing checks on 15 meters first. Adjust the trimmer C30 until the meter reading does not increase sharply under modulation. Preferably, it should not increase at all. Grid tuning will have some reaction on this adjustment.

(7) 6-meter neutralization employs a feedback link which must also be adjusted for minimum increase of meter reading. This link is not a critical adjustment, but polarity must be correct. The twisted line which connects the links is color coded. If connected the wrong way, the amplifier will, of course, be extremely unstable on 6 meters.

(8) Modulation. Set the Mic. Gain to about its mid-point and insert a high impedance mike (Gonset 3240) in the jack. The swing in modulator plate current will not show on the front panel meter. The percentage of modulation should be checked by some external means.

(9) A test jack on the chassis rear may be used for metering grid current when final amp. is operating. Nominal grid current is 2 MA.

TRANSMITTER VOLTAGE CHART

14 Mc. Band - VFO Control

Tube	Pin Numbers								
	1	2	3	4	5	6	7	8	9
				(Spot Switch UP)					
V1 12BY7A	0	-7	0	0	12.6AC	6.3AC	+110	+105	0
V2 12BY7A	0	-10	0	0	12.6AC	6.3AC	+12	+.5	0
				(Tune Position - 6DQ5 and 6DQ6's not operating)					
V1 12BY7A	0	-11	0	0	12.6AC	6.3AC	+260	+150	0
V2 12BY7A	0	-15	0	0	12.6AC	6.3AC	+260	+100 Lo +140 M +210 Hi	0
V3 6DQ5	-50	0	0	-7	-50	0	6.3AC	-7	Cap -7
				(Lo Power Position - 6DQ5 and 6DQ6's operating at med. voltage)					
V3 6DQ5	-43	0	+1	+55	-43	+1	6.3AC	+55	Cap Do not meas.
V12 12AX7	+100	0	+1	0	12.6AC	+84	-7	0	6.3AC
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +225
				(Hi Power Position - 6DQ5 and 6DQ6's operating at high voltage)					
V3 6DQ5	-45	0	+4	+115	-45	+4	6.3AC	+115	Cap Do not meas.
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +625 (Caution)

RECEIVER VOLTAGE CHART

Tube	Pin Numbers								
	1	2	3	4	5	6	7	8	9
V4 6BZ6	-2.5	0	6.3*	0	+250	+140	0	---	---
V5 6U8A	+35	-2	+35	6.3*	0	+275	0	0	-2
V6 6BE6	-7	0	12.6*	6.3*	+265	+100	-2	---	---
V7 12BA6	-2.5	0	0	12.6*	-215	+85	+1.2	---	---
V8 12BA6	0	0	12.6*	0	+245	+70	+1.7	---	---
V9 12AL5	0	-1.6	0	9*	-.5	0	-2.7	---	---
V10 12AU7	+240	0	+85	0	12.6*	+40	0	+2	6.3*
V11 OB2	+105	0	0	0	+105	0	0	---	---
V12 12AX7	-.7	-.7	0	0	12.6*	+90	-.7	0	6.3*
V13 6CM6	+275	+17	0	12.6*	6.3*	0	+17	0	+265

Bandswitch at 14 Mc.
Receiver Function Switch at "AM CAL."
Transmitter Function Switch at "FIL OFF"
Antenna Disconnected.
*A.C. volts

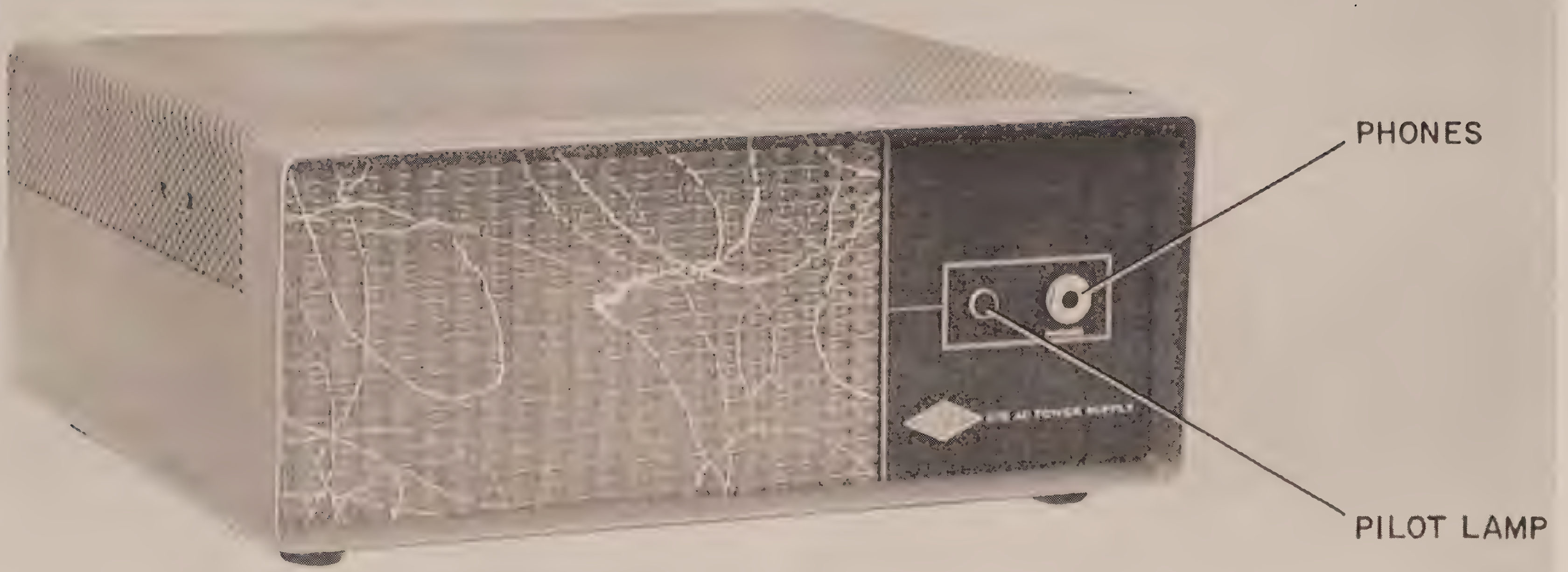


FIG. 6, A.C. POWER SUPPLY

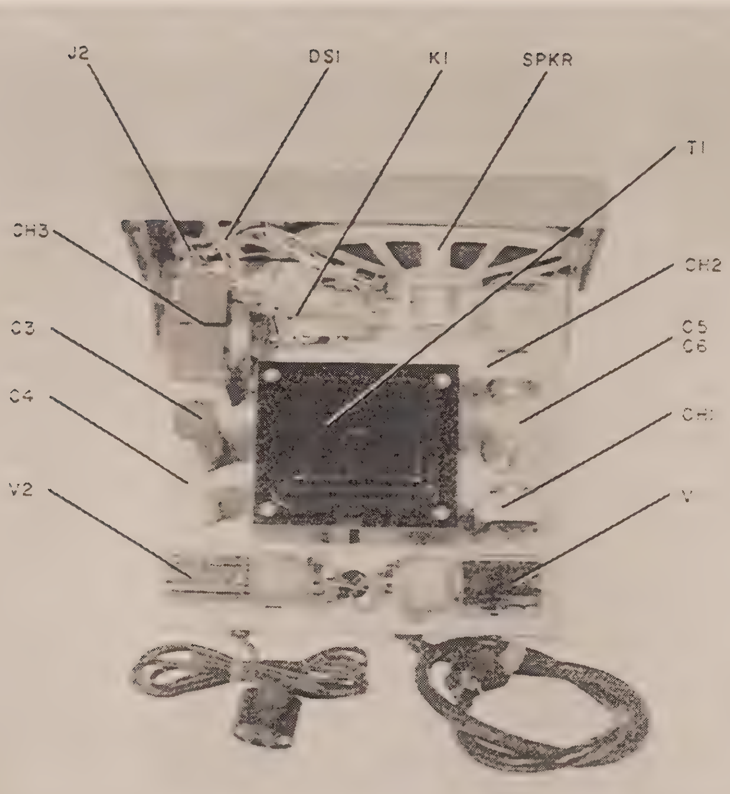


FIG. 7 A.C. POWER SUPPLY, TOP VIEW

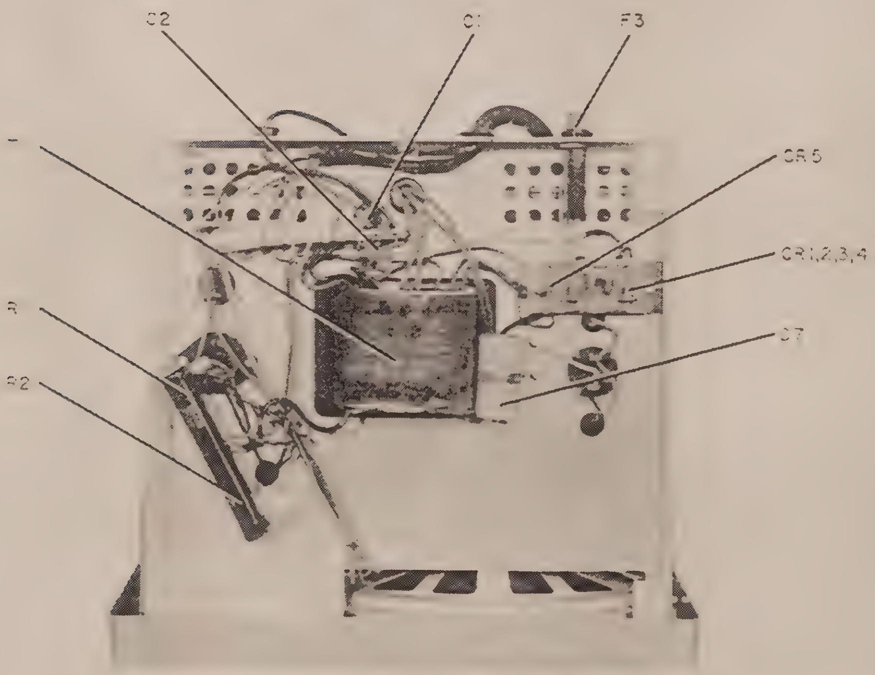
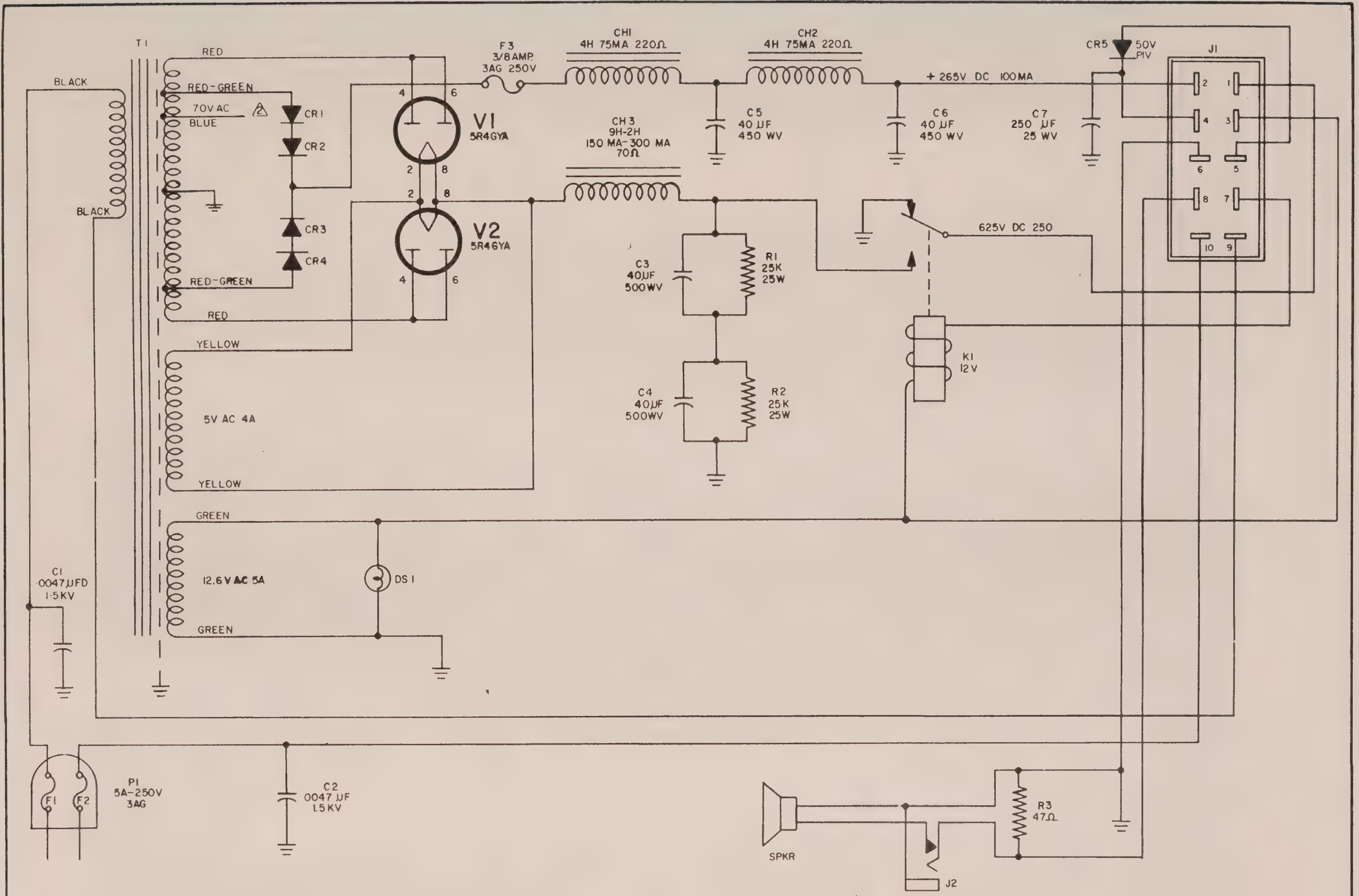


FIG. 8 A.C. POWER SUPPLY, BOTTOM VIEW



6. RIPPLE ON 265VDC LINE, .05 VRMS
5. % OF REGULATION ON 265VDC LINE, 10% (90MA-120MA)
4. RIPPLE ON 625 VDC, 5.0VRMS
3. % OF REGULATION ON 625 VDC LINE, 10% (50MA-250MA)
⚠ 70V AC NOT USED THIS CIRCUIT
1. J1 VIEWED FROM WIRING SIDE
NOTE:

G-76 AC POWER SUPPLY

510-086 6-28-60

LETT	CHANGE	APP.	DATE
A	CHANGED LOCATION OF F3		11-10-6

G-76 AC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 117 VAC at 3 amps. Receive - 117 VAC at 1.5 amps.
High Voltage Output:	600 VDC at 250 MA. Regulations 10%, Ripple 5.0 VRMS
	265 VDC at 120 MA. Regulation 10%, Ripple .05 VRMS
Filament Output:	12.6 VAC @ 5 amps.
Dimensions:	12-5/8" wide, 5-1/8" high, 10-1/2" deep.
Fuses:	2-5 amp. 250 V. 3 AG 1-3/4 amp. 250 V. 3 AG

G-76 DC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 13.4 VDC at 22.5 amps. Receive - 13.4 VDC at 10 amps.
High Voltage Output:	600 VDC at 300 MA. Regulation 10%, Ripple 2.5 VRMS
	250 VDC at 130 MA. Regulation 10%, Ripple .8 VRMS.
Filament Output:	D.C. input carried through.
Dimensions:	8.18" wide, 3-1/2" high, 6-1/2" deep.
Fuses:	2-30 amp. suggested.

SHIPPING WEIGHT

D.C. Power Supply:	10 pounds
A.C. Power Supply:	32 pounds

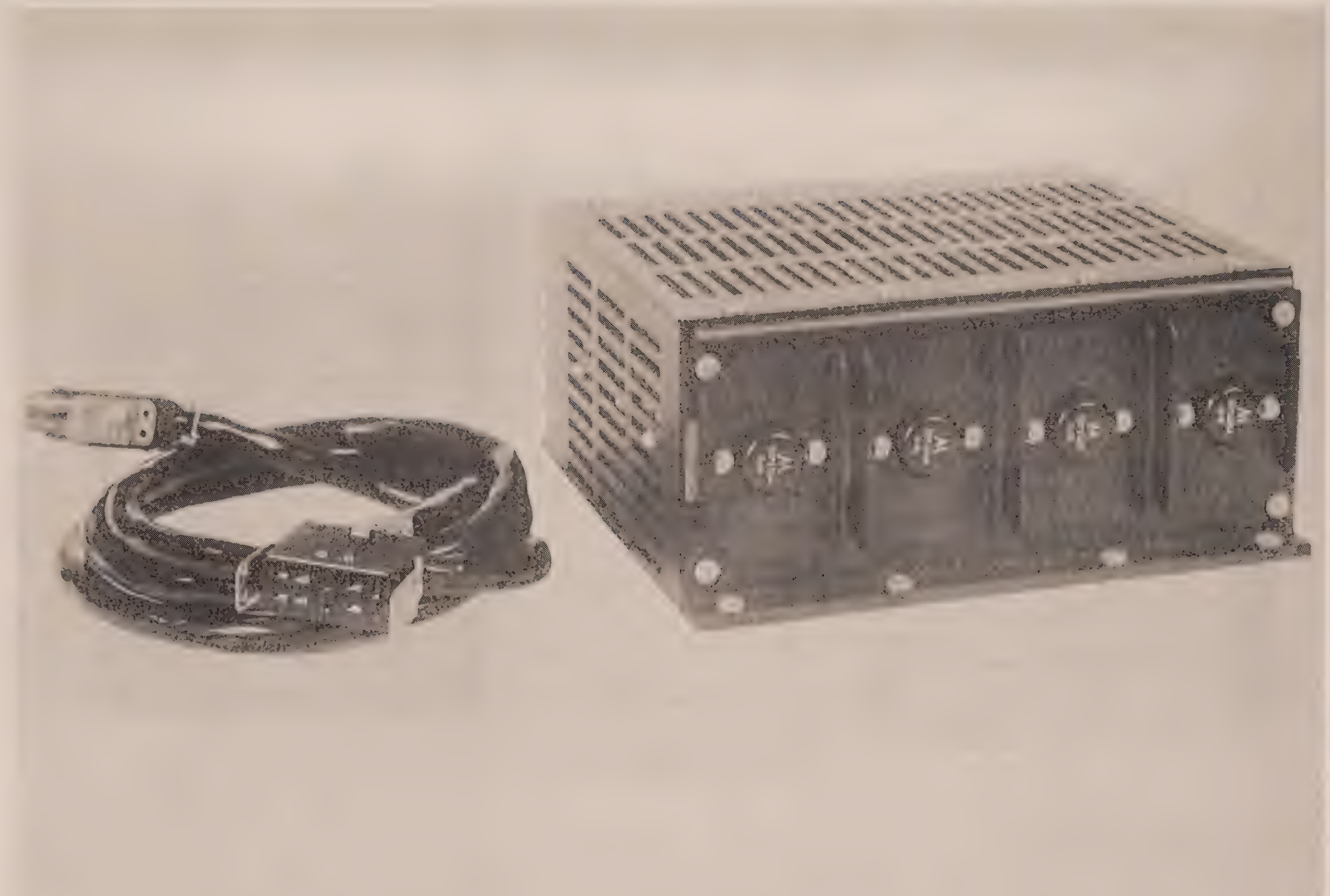


FIG. 9 D. C. POWER SUPPLY

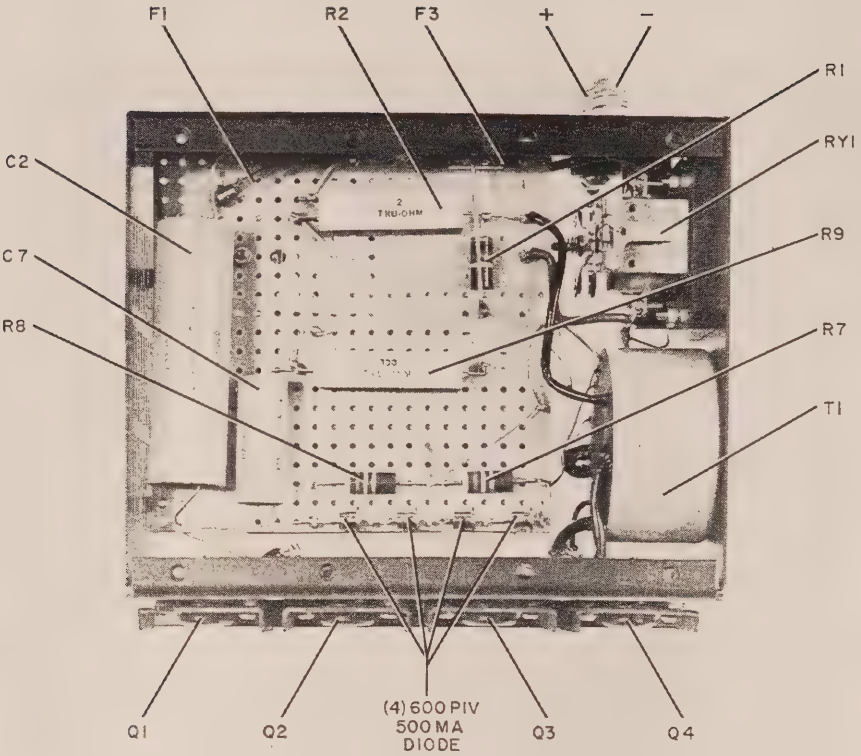


FIG. 10 D.C. POWER SUPPLY, TOP VIEW

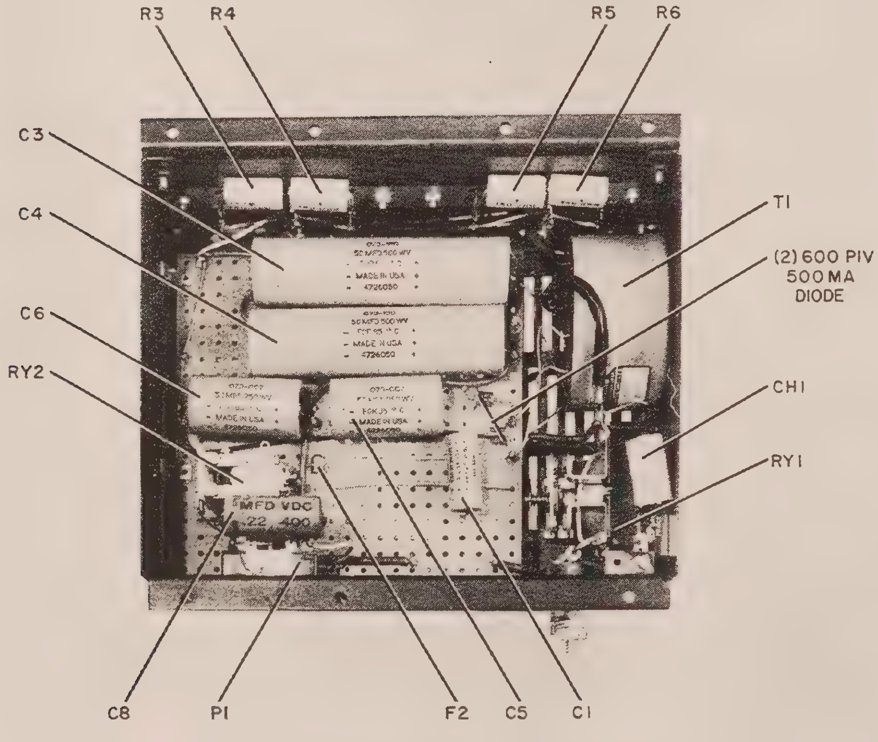
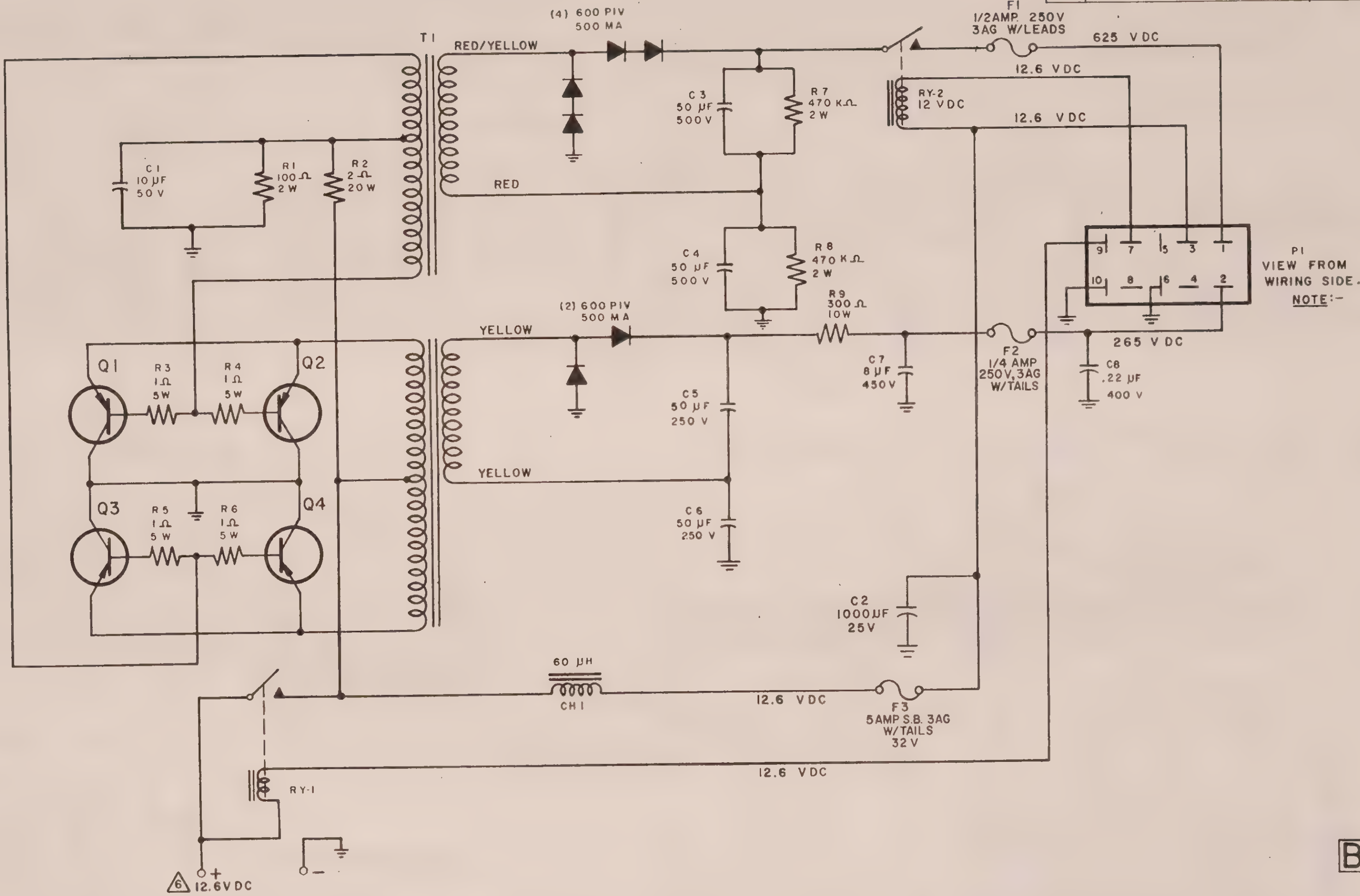


FIG. 11 D.C. POWER SUPPLY, BOTTOM VIEW

LET	REVISION	APP.	DATE
A	ADDED: C8.		
B	ADDED: F1, F2, F3.- DELETE GREEN TAP		11-10-60



B CHG

G-76 D.C. POWER SUPPLY

6 USE 13.4 VDC FOR TEST PURPOSES

4. RIPPLE ON 265VDC LINE .8VRMS
3. % OF REGULATION ON 265VDC LINE, 10% (130MA-95MA)
2. RIPPLE ON 650VDC LINE 2.5VRMS
1. % OF REGULATION ON 650VDC LINE, 10% (300MA-50MA)

NOTES:

510-085 6-21-60

MISCELLANEOUS COMPONENTS

Schematic No.	Description	Gonset Part No.
RFC 1	R-F Choke, 200 μH	027-017
RFC 2	R-F Choke, 200 μH	027-017
RFC 3	R-F Choke, 50 μH	027-018
RFC 4	R-F Choke, 200 μH	027-017
RFC 5	R-F Choke, 80 μH	027-081
RFC 6	R-F Choke, 200 μH	027-017
RFC 7	R-F Choke, 2.2 μH	027-053
S1	Band Switch Shaft Assembly only	171-110
S1A	Receiver Osc. Plate Wafer	171-111
S1B	Receiver Osc. Grid Wafer	171-112
S1C	Receiver Mixer Grid Wafer	171-112
S1D	Receiver R-F Plate Wafer	171-111
S1E	Transmitter Final Grid Wafer	171-113
S1F	Transmitter Osc Plate Wafer	171-113
S1G	VFO H-F Section	171-114
S1H	VFO L-F Section	171-114
S2	VFO-Crystal Switch DPDT	172-002
S3A-B	Osc. Spot Switch	172-045
S4	Drive Control Switch	171-106
S5	Bandswitch, Antenna Tuner Switch	171-108
S6	Receiver Function Switch	171-109
S7	Transmitter Function Switch	171-107
S8	Transmit-Receive Switch	172-010
S9	Power On-Off Switch	172-010
RL1 A-B-C	Relay 3P2T, 6 VDC	111-090
RL2 A-B-C	Relay 3P2T, 6 VDC	111-090
M1	Meter	112-035
J1	Antenna Connector Receptacle	344-011
J2	Grid Test Tip Jack	342-018
J3	Key Jack, Closed Circuit	342-001
J4	Speaker Jack, Closed Circuit	342-001
J5	Microphone Jack, 3-Circuit	342-002
P1	10-Pin Connector Receptacle	344-173
P2	Dual Crystal Socket	345-008
P3	Crystal Calibrator Accessory Socket	341-518
DS1	Dial Lamp #1815	471-004
SD1	Selenium Diode 92 PIV	475-012
Z1	Printed Noise Limiter Circuit	069-004

ELECTRON TUBES

Schematic No.	Description	Gonset Part No.
V1	12BY7A	472-029
V2	12BY7A	472-029
V3	676G	472-101
V4	6BZ6	472-041
V5	6U8A	472-005
V6	6BE6	472-010
V7	12BA6	472-063
V8	12BA6	472-063
V9	12AL5	472-055
V10	12AUTA	472-094
V11	OA2	472-049
V12	12AX7	472-022
V13	6CM6	472-038
V14	6DO6B	472-511
V15	6DO6B	472-511
V16	OB2	472-032
V17	12AQ5	472-065
V18	OB2	472-032

REPLACEMENT PARTS LIST

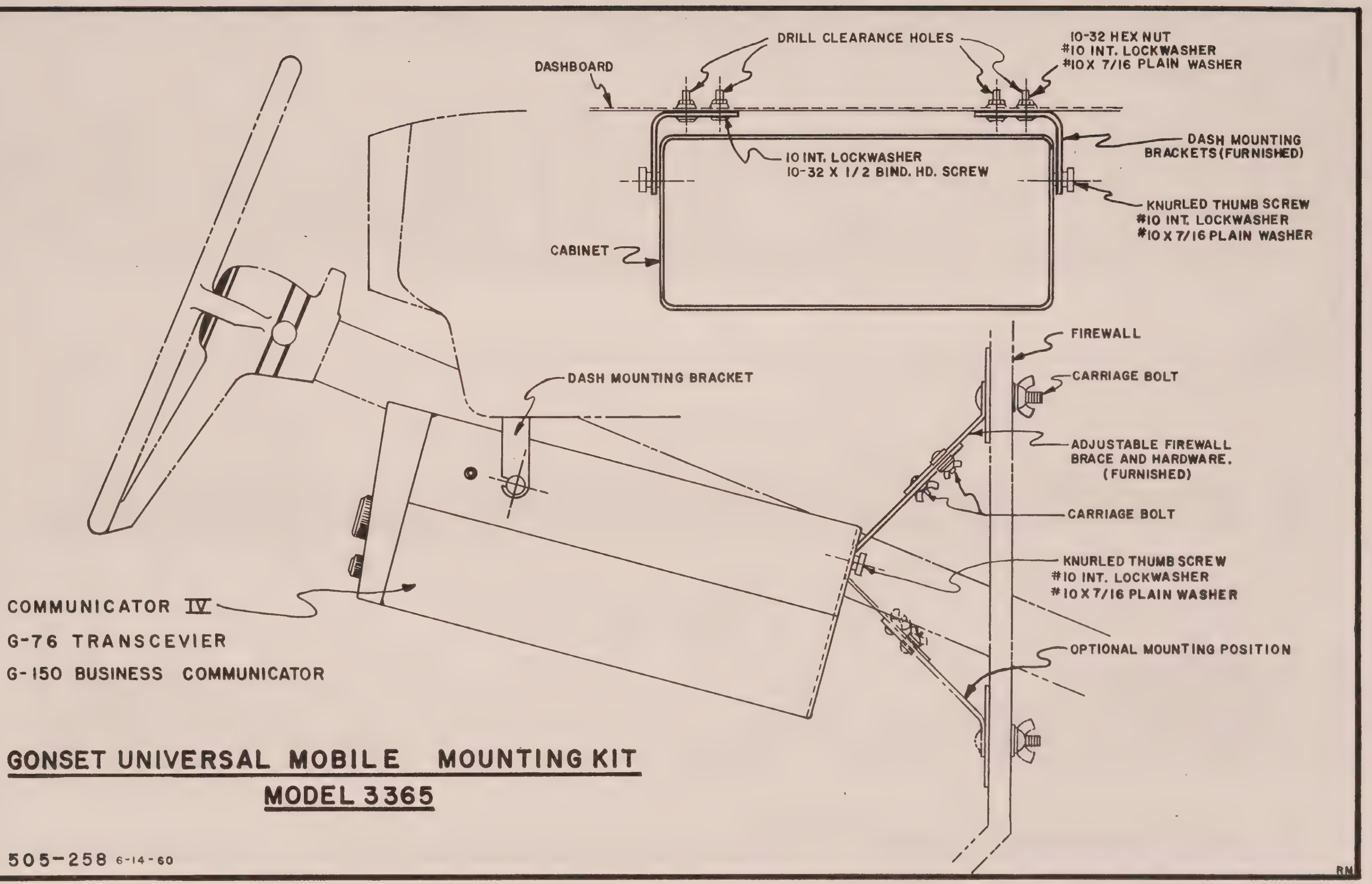
Gonset Part No.	Description	No. Req.
212-019	Knob, With Pointer	1
263-630	Washer, Felt	1
211-006	Knob, Medium (W/Index)	9
211-007	Knob, Small (W/Index)	1
211-005	Knob, Large (W/Index)	1
212-004	Knob, Large	1
212-053	Knob, Medium	1
465-084	Cabinet Weldment	1
114-007	Planetary Drive Assembly (VFO)	1
351-040	Dial Lamp Socket	1
112-035	Meter	1
463-005	Bezel (Die Cast)	1
505-251	Front Panel	1
520-535	Instruction Manual	1
505-253	Dial Receiver	1
505-226	VFO Dial	1
505-267	Dial Window	1

D.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1	100 Ω 2 watts	044-101
R2	2 Ω 20 watts	049-084
R3	1 Ω 5 watts	049-080
R4	1 Ω 5 watts	049-080
R5	1 Ω 5 watts	049-080
R6	1 Ω 5 watts	049-080
R7	470 KΩ 2 watts	044-474
R8	470 KΩ 2 watts	044-474
R9	300 Ω 10 watts	049-088
C1	10 μF 50 V.	073-131
C2	1000 μF 25 V.	073-132
C3	50 μF 500 V.	073-130
C4	50 μF 500 V.	073-130
C5	50 μF 250 V.	073-007
C6	50 μF 250 V.	073-007
C7	8 μF 450 V.	073-030
C8	.22 μF 400 V.	085-032
F1	1/2 Amp 250 V. 3 AG W/Leads	482-062
F2	1/4 Amp 250 V. 3 AG W/Leads	482-061
F3	5 Amp 32 V. 3 AG SB W/Leads	482-060
K1	Relay Input	111-095
K2	Relay B+	111-093
CH1	Hash Choke	027-027
T1	Transformer	271-082
CR1	Silicon Rectifier	474-022
CR2	Silicon Rectifier	474-022
CR3	Silicon Rectifier	474-022
CR4	Silicon Rectifier	474-022
CR5	Silicon Rectifier	474-022
CR6	Silicon Rectifier	474-022
Q1	Transistor	476-006
Q2	Transistor	476-006
Q3	Transistor	476-006
Q4	Transistor	476-006
P1	Power Connector	344-181
	Chassis Frame	443-065
	Top Plate	443-066
	Bottom Plate	443-067
	Power Cable	678-039

A.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1-2	50 KΩ 50 WCT	049-086
R3	47 Ω 1/2 watt	042-470
C1	.0047 μF 1.5 KV Disc	072-215
C2	.0047 μF 1.5 KV Disc	072-215
C3	40 μF 500 WVDC Insulated	073-129
C4	40 μF 500 WVDC	073-009
C5-6	2 x 40 μF 450 WVDC	073-029
C7	250 μF 25 WVDC	073-028
K1	Relay	111-092
CH1	Filter Choke	274-002
CH2	Filter Choke	274-002
CH3	Filter Choke	274-023
T1	Power Transformer	271-079
CR1	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR2	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR3	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR4	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR5	Silicon Rectifier 50 PIV @ 500 Ma.	474-004
F1	5 Amp @ 250 V. 3 AG	482-002
F2	5 Amp @ 250 V. 3 AG	482-002
F3	3/8 Amp @ 250 V. 3 AG	482-063
V1	Tube 5R4GYA	472-535
V2	Tube 5R4GYA	472-535
	Cable Assembly	678-041
	A.C. Cord	696-014
	Speaker 2.3 Ω	152-020
	Pilot Light Assembly	351-041
	Front Panel Assembly	453-482
	Cabinet Weldment	465-085
	Phone Jack	342-001



GONSET UNIVERSAL MOBILE MOUNTING KIT
MODEL 3365

505-258 6-14-60

CAPACITORS

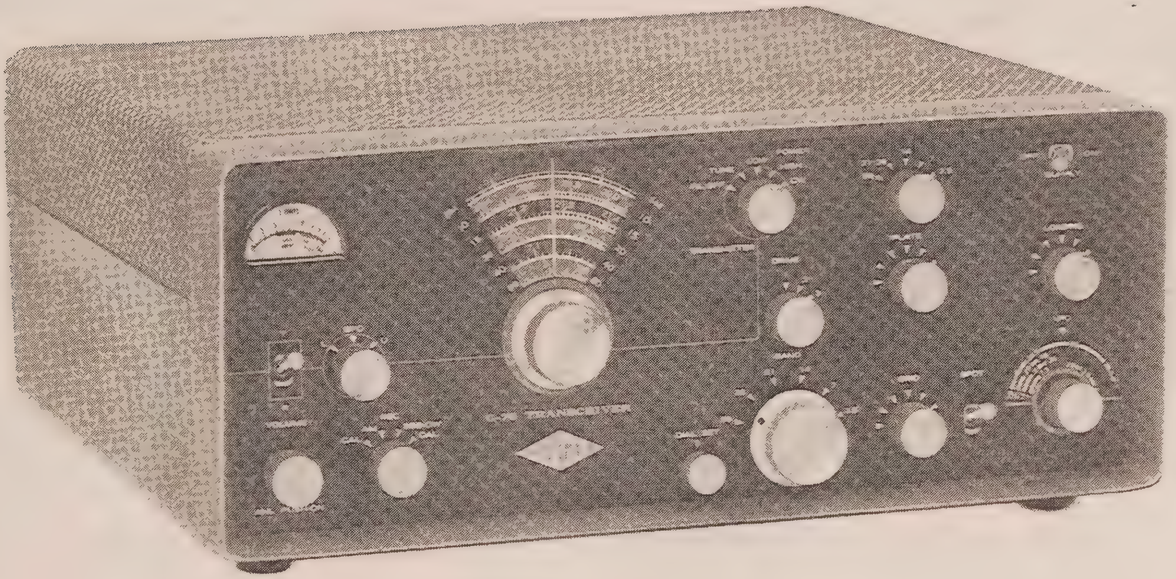
Schematic No.	Description	Gonset Part No.
C1	750 μμF Silver Mica, Tol. ±1%	088-182
C2	3000 μμF Silver Mica, Tol. ±2%	088-183
C4	3000 μμF Silver Mica, Tol. ±2%	088-183
C5A-B	2-Section Variable	074-120
C6	470 μμF Silver Mica, Tol. ±5%	088-016
C7	22 μμF Tubular N750, Tol. ±5%	084-238
C8	150 μμF Silver Mica, Tol. ±5%	088-077
C9	.01 μF Disc 500 V. GP	072-173
C10	200 μμF Disc GPSL Tol. ±5%	072-225
C11	30 μμF Disc GPSL Tol. ±10%	072-206
C12	50 μμF Disc GPSL Tol. ±5%	072-131
C14	.01 μF Disc 500 V. GP	072-173
C15	10 μμF Tubular GPSL Tol. ±1 μμF	071-008
C16	.01 μF Disc 300 V. GP	072-169
C17	.01 μF Disc 500 V. GP	072-173
C18	Variable Grid Tuning	074-113
C19	68 μμF Silver Mica, Tol. ±5%	088-188
C20	100 μμF Silver Mica, Tol. ±5%	088-017
C21	33 μμF Silver Mica, Tol. ±5%	088-079
C22	100 μμF Tubular GP Tol. ±10%	071-013
C23	470 μμF Silver Mica, Tol. ±5%	088-016
C24	.01 μF Disc 300 V. GP	072-169
C25	.001 μF Disc 3 KV, GP	072-223
C26	.01 μF Disc 500 V. GP	072-173
C27	.01 μF Disc 500 V. GP	072-173
C28	.001 μF Disc 3 KV GP	072-223
C29	.001 μF Disc 3 KV GP	072-223
C30	Variable, Neutralizing	074-084
C31	.001 μF Foil Mica 2.5 KV, Tol. ±20%	087-070
C32	Variable, Plate Tuning	074-047
C33	33 μμF Silver Mica 2.5 KV, Tol. ±20%	088-187
C34	33 μμF Silver Mica 2.5 KV, Tol. ±20%	088-187
C35	33 μμF Silver Mica 2.5 KV, Tol. ±20%	088-187
C36	300 μμF Silver Mica, Tol. ±10%	088-185
C37	2-Section Variable, Output Load	074-119
C38	5 μμF Disc 3 KV, Tol. ±20%	074-224
C39	2 μμF Tubular, Tol. ±10%	071-003
C40	50 μF Electrolytic @ 25 Volt	073-058
C41	.01 μF Disc 300 V. GP	072-169
C42	.01 μF Disc 300 V. GP	072-169
C43	.01 μF Disc 500 V. GP	072-173
C44	47 μμF Disc GPSL, Tol. ±3%	072-220
C45	39 μμF Disc GPSL, Tol. ±3%	072-221
C46A-B	2-Section Variable	074-126
C47	22 μμF Tubular N750, Tol. ±5%	084-238
C48	3 μμF Tubular, Tol. ±5%	071-069
C49	5 μμF Tubular NPO, Tol. ±.5 μμF	084-117
C50	10 μμF Tubular GPSL, Tol. ±10%	071-013
C51	47 μμF Disc GPSL, Tol. ±3%	072-220
C52	22 μμF Tubular N750, Tol. ±5%	084-238
C53	68 μμF Disc GPSL, Tol. ±5%	072-219
C54	56 μμF Disc GPSL, Tol. ±5%	072-218
C55	.01 μF Disc 500 V. GP	072-173
C56	2.2 μμF Tubular NPO, Tol. ±.5 μμF	084-083
C57	470 μμF Silver Mica, Tol. ±5%	088-016
C58	100 μμF Silver Mica, Tol. ±5%	088-017
C59	22 μμF Tubular N080, Tol. ±5%	084-252
C60	160 μμF Silver Mica, Tol. ±1%	088-008
C61	39 μμF Tubular N330, Tol. ±3%	084-253
C62	Variable, Dial Set	074-112
C63	5-25 μμF Rotary Trimmer NPO	089-032
C64	18 μμF Silver Mica, Tol. ±1%	088-197
C65	160 μμF Silver Mica, Tol. ±1%	088-008
C66	220 μμF Silver Mica, Tol. ±1%	088-190
C67	120 μμF Silver Mica, Tol. ±1%	088-191
C68	82 μμF Silver Mica, Tol. ±1%	088-001
C70	.01 μF Disc 500 V. GP	072-173
C71	.01 μF Disc 300 V. GP	072-169
C72	22 μμF Disc N470, Tol. ±5%	084-243
C73	100 μμF Tubular GP, Tol. ±10%	071-013
C74	.01 μF Disc 500 V. GP	072-173
C75	.01 μF Disc 500 V. GP	072-173
C76	.01 μF Disc 300 V. GP	072-169
C77	.01 μF Disc 500 V. GP	072-173
C78	.01 μF Disc 500 V. GP	072-173
C79	.01 μF Disc 500 V. GP	072-173
C80	.01 μF Disc 500 V. GP	072-173
C81	.1 μF Molded Tubular 200 V., Tol. ±20%	085-002
C82	.01 μF Disc 300 V. GP	072-169
C83	100 μμF Disc GP, Tol. ±10%	071-013
C84	.001 μF Disc GP	072-108
C85	1.5 μμF Tubular NPO, Tol. ±.5 μμF	084-025
C86	100 μμF Tubular GP, Tol. ±10%	071-013
C87	.1 μF Molded Tubular 400 V., Tol. ±20%	085-005
C88	470 μμF Disc GP, Tol. ±20%	072-213
C89	25 μF Electrolytic 25 V.	073-127
C90	.01 μF Disc 500 V. GP	072-173
C91	470 μμF Disc GP, Tol. ±20%	072-213
C92	.001 μF Disc GP	072-108
C93	.001 μF Disc GP	072-108
C94	100 μμF Tubular GP, Tol. ±20%	072-213
C95	.01 μF Disc 300 V. GP	072-169
C96	.1 μF Molded Tubular 400 V., Tol. ±20%	085-005
C97	.001 μF Disc GP	072-108
C98	25 μF Electrolytic 25 V.	073-127
C99	.0022 μF Molded Tubular, 3 KV, Tol. ±20%	085-095
C100	Variable, BFO Pitch	074-115
C101	.01 μF Disc, 500 V., GP	072-173
C102	.001 ±20% Disc, Ceramic	072-108
C103	500 μμF DM15 ±5%	088-081
C104	82 μμF DM15 ±5%	088-002
C105	100 μμF N750 ±120 Tol. .100 μμF	084-271
C106	5 μμF NPO	084-117
C107	5 μμF NPO	084-117
C108	5 μμF NPO	084-117
C109	.001 μμF ±20% Disc, Ceramic	072-108
C110	.01 μF Disc @ 500 V. GP	072-173

RESISTORS

(All resistors 1/2 watt composition Tol.±10% unless otherwise specified)

Schematic No.	Description	Gonset Part No.
R1	27 Ω	042-270
R2	33 KΩ	042-333
R3	3500 Ω 7 watt Wire wound, Tol.±20%	049-001
R4	10 KΩ 1 watt	043-103
R5	270 KΩ	042-274
R6	68 KΩ	042-683
R7	22 KΩ 1 watt	043-223
R8	4700 Ω 1 watt	043-472
R9	47 Ω	042-470
R10	15 KΩ	042-153
R11	1000 Ω	042-102
R12	27 KΩ 1 watt	043-273
R13	220 Ω 2 watt (part of L13)	044-221
R15	47 KΩ 2 watt	044-473
R16	22 Ω 1 watt, Tol. ±5%	047-220
R17	3.9 KΩ 1/2 watt, Tol. ±5%	046-392
R18	470 KΩ	042-474
R19	100 KΩ	042-104
R20	27 Ω	042-270
R21	10 KΩ	042-103
R22	22 KΩ	042-223
R23	33 KΩ	042-333
R24	7000 Ω 10 watt Wire wound, Tol. ±10%	049-083
R25	1000 Ω	042-102
R26	100 KΩ	042-104
R27	4.7 meg. Ω	042-475
R28	100 KΩ	042-104
R29	22 KΩ	042-223
R30	10 Ω	042-100
R31	4700 Ω	042-472
R32	270 Ω	042-271
R33	47 KΩ 1 watt	043-473
R34	10 KΩ	042-103
R35	270 Ω	042-271
R36	100 KΩ	042-104
R37	27 KΩ	042-273
R38A	10 KΩ R38B 1 meg.Ω Dual Potentiometer	052-101
R39	68 KΩ 2 watt	044-683
R40	47 KΩ 1 watt	043-473
R41	10 KΩ	042-103
R42	47 KΩ	042-473
R43	270 KΩ	042-274
R44	270 KΩ	042-274
R45	2700 Ω	042-272
R46	680 KΩ	042-684
R47	47 KΩ	042-473
R48	27 KΩ	042-273
R49	27 KΩ	042-273
R50	470 KΩ	042-474
R51	2700 Ω	042-272
R52	250 KΩ Potentiometer (Mike Gain)	052-102
R53	47 KΩ	042-473
R54	680 KΩ	042-684
R55	2.2 meg.Ω	042-225
R56	270 KΩ	042-274
R57	470 KΩ	042-474
R58	470 Ω 1 watt	043-471
R59	27 KΩ	042-273
R60	100 KΩ	042-104
R61	15 Ω 1/2 watt Wire wound, Tol. ±5%	058-150
R62	15 Ω 1/2 watt Wire wound, Tol. ±5%	058-150
R63	22 Ω 2 watt	044-220
R64	2700 Ω	042-272
R65	68 KΩ 2 watt	044-683
R66	20 KΩ Potentiometer (Meter Zero)	052-103
R67	10 KΩ	042-103
R68	10 Ω	042-100
R69	10 Ω	042-100
R70	220 K 1/2 watt ±10%	042-224
R71	100 ohm 1/2 watt ±10%	042-010
R72	100 K 1/2 watt ±10% Composition	042-104
R73	100 K 1/2 watt ±10% Composition	042-104
R74	100 K 1/2 watt ±10% Composition	042-104
R75	100 K 1/2 watt ±10% Composition	042-104
R76	220 K 1/2 watt ±10% Composition	042-224
R77	2.2 K 1/2 watt ±10% Composition	042-222
R78	22 KΩ 2 watt	044-223
R79	47 KΩ 2 watt	044-473
L1	VFO Coil, 1.75 Mc. - 2 Mc.	012-464
L2	VFO Coil, 7 Mc. - 7.425 Mc.	012-465
L3	Oscillator Plate Coil	012-449
L4	Oscillator Plate Coil	012-449
L5	Oscillator Plate Coil	012-450
L7	Final Grid Coil	012-452
L8	Final Grid Coil	012-453
L9	Final Grid Coil	012-454
L10	Final Grid Coil	012-454
L11	Final Grid Coil	012-455
L12	Final Grid Coil	012-472
L13	Parasitic Coil (wound on R13)	026-011
L14	H-F Final Plate Coil	012-471
L15	L-F Final Plate Coil	012-504
L16	Receiver Mixer Coil 80-M	012-452
L17	Receiver Mixer Coil 40-M	012-449
L18	Receiver Mixer Coil 20-M	012-456
L19	Receiver Mixer Coil 15-M	012-451
L20	Receiver Mixer Coil 10-M	012-451
L21	Receiver Mixer Coil 6-M	012-457
L22	Receiver Oscillator Coil 80-M	012-462
L23	Receiver Oscillator Coil 40-M	012-463
L24	Receiver Oscillator Coil 20-M	012-458
L25	Receiver Oscillator Coil 15-M	012-459
L26	Receiver Oscillator Coil 10-M	012-460
L27	Receiver Oscillator Coil 6-M	012-461
T1	I-F Transformer, 2065 Kc.	014-008
T2	Oscillator Coil, 2327 Kc.	014-059
T3	I-F Transformer, 262 Kc.	014-080
T4	I-F Transformer, 262 Kc.	014-080
T5	I-F Transformer, 262 Kc.	014-080
T6	BFO Transformer, 262 Kc.	014-058
T7	Audio Driver Transformer	273-013
T8	Modulation Transformer	273-014

INSTRUCTION MANUAL
G-76 MULTI BAND TRANSCEIVER MODEL 3338
G-76 AC POWER SUPPLY MODEL 3349
G-76 DC POWER SUPPLY MODEL 3350



GONSET DIVISION

Young Spring & Wire Corporation

801 South Main Street

Burbank, California

MADE IN U.S.A.

Warranty Policy

The Gonset Division warrants its equipment, when properly registered, against defects in workmanship, materials, and construction under normal use and service for a period of 90 days from the date of original purchase. Under this warranty our obligation is limited to repairing or replacing any defective parts.

This warranty does not apply to any equipment which has been tampered with in any way, or which has been misused or damaged by accident or negligence, or which has had the serial number removed, altered or effaced.

On equipment employing a vibrator, all components are covered by the warranty with the exception of the vibrator itself.

This warranty is valid only when the enclosed card is properly filled in and returned within ten days from purchase date.

The Gonset Division reserves the right to discontinue or change, at any time, specifications, design or prices without notice and without incurring obligations.

DO NOT SEND EQUIPMENT TO THE FACTORY WITHOUT FIRST SECURING AUTHORIZATION TO DO SO.

THIS WARRANTY DOES NOT INCLUDE TRANSPORTATION COSTS TO AND FROM THE FACTORY.

GONSET DIVISION
YOUNG SPRING AND WIRE CORPORATION
801 SOUTH MAIN STREET, BURBANK, CALIFORNIA

DANGER, HIGH VOLTAGE

The voltage employed in this unit are sufficient to cause fatel shock under some conditions. Do not attempt to work on the unit out of the cabinet unless you are qualified to the extent of knowing what precautions to observe with regard to avoiding electrical shock.

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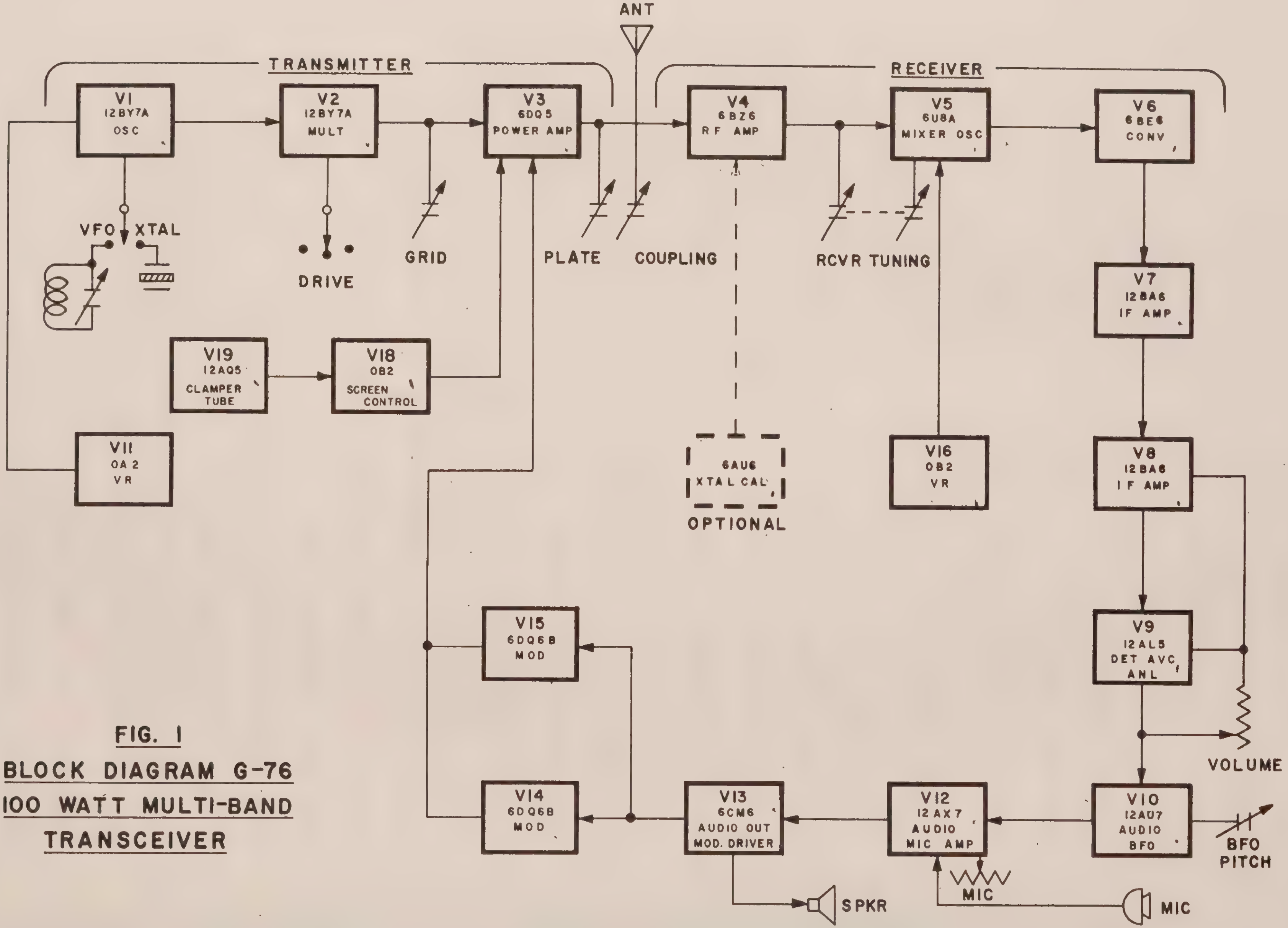


FIG. 1

BLOCK DIAGRAM G-76
100 WATT MULTI-BAND
TRANSCEIVER

505-254
A CHG.

RECEIVER SPECIFICATIONS

Frequency Ranges: Band 1 -- 3.5 - 4.0 megacycles

Band 2 -- 7.0 - 7.3 megacycles

Band 3 -- 14.0 -14.35 megacycles

Band 4 -- 21.0 -21.45 megacycles

Band 5 -- 28.0 -29.7 megacycles

Band 6 -- 50.0 -54.0 megacycles

Sensitivity: Approximately 1 μV at 50 Ω for 6 db signal-plus-noise to noise ratio.

Selectivity: 3 Kc. bandwidth at 6 db down, nominal.
14 Kc. or less, at 60 db down.

Image Rejection:

Typical Figures:

Signal Input	Image
3.5 Mc.	70 db down
7 Mc.	57 db
14 Mc.	58 db
21 Mc.	53 db
28 Mc.	48 db
50 Mc.	30 db

Stability: Oscillators (both transmitter and receiver) are temperature compensated for negligible frequency drift. Oscillator circuit permits exceptionally wide excursions in power supply voltage, both plate supply and heater supply, with negligible frequency shift. As much as 30% decrease, or 50% increase, may be tolerated even in single sideband reception. This feature is, of course, most important in mobile service. Mechanical stability is excellent.

Antenna Input: 50 ohms unbalanced (coax cable).

Intermediate Frequencies:

First I.F. . . . . 2065 Kc.

Second I.F. . . . . 262 Kc.

Audio Output: 2.5 Watts into 3.2 ohms.

Noise Limiter: Automatic type, switched in or out with front panel controls.

Accessories: 100 Kc. calibrator (Gonset Model 3269).
Microphone, High Impedance Ceramic Type (Gonset #3240)

TRANSMITTER SPECIFICATIONS

Frequency Range: 3.5, 7, 14, 21, 28 and 50 Mc. amateur bands.

V F O: Planetary vernier tuning, choice of crystal control when desired. VFO does not function on 50 Mc. band (8334-9000 Kc. crystal required for this band.) For other bands, crystal frequencies are as follows:

80M	1.75 or 3.5 Mc.
40M	1.75, 3.5 or 7 Mc.
20M	3.5 or 7 Mc.
15M	7-7.15 Mc.
10M	7-7.425 Mc.
6M	8.334-9 Mc.

Input Power: 6DQ5 Power Amplifier
100 Watts, amplitude modulated phone
120 Watts, CW.

Output Impedance: 50 ohms unbalanced (coax cable).

Power Requirements: (Gonset G-76 A.C. Supply - Model 3349).
(Gonset G-76 D.C. Supply - Model 3350).

(1) 12.6 volts A.C. or D.C. at 4.67 amperes. This reduces to 2.17 amps. when the transmitter function switch is set on "FIL OFF", thus allowing for reception only with minimum battery drain.

(NOTE: Transmitter oscillator tube is not turned off in this position.)

(2) 225-275 volts D.C. at 90 MA.

(3) 500-625 volts D.C. at 200 MA., resting current, 330 MA. on voice peaks. (250 MA. average drain on phone.

Dimensions: 12-5/8" wide, 5-1/8" high, 10-1/2" deep.

Shipping Weight: 21 pounds

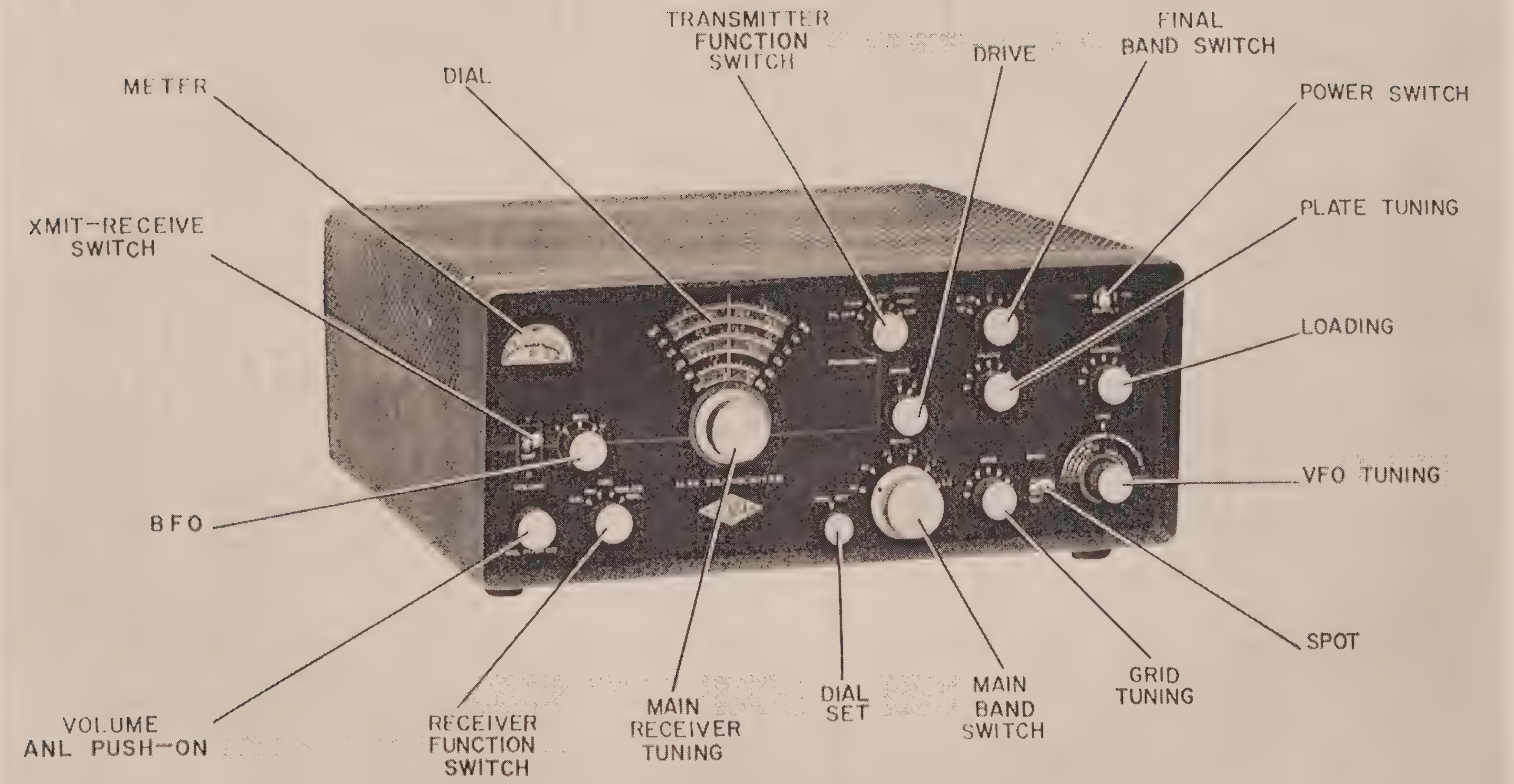


FIG. 2 FRONT PANEL CONTROLS

RECEIVER CONTROLS

Tuning Dial: 8:1 Planetary vernier. Dial scales printed on rotating disc.

Volume Control: Functions as an audio gain control in A.M. reception and R.F. gain, or sensitivity control, in SSB or CW reception. The push-pull switch on this control switches the automatic noise limiter on (in) and off (out).

Function Control:

Position 1	AM	Cal ON
Position 2	AM	Cal OFF
Position 3	SSB-CW	Cal OFF
Position 4	SSB-CW	Cal ON

NOTE: The 100 Kc. calibrator (Gonset Model 3269) is a plug-in accessory available as optional equipment. It can be switched on in both A.M. and SSB-CW positions.

BFO Pitch Control: Marked "L" and "U" to indicate approximately the positions for lower and upper sideband reception.

Dial Set: For minor correction of dial calibration.

Bandswitch: 6 Ranges: 3.5-4 Mc., 7-7.3 Mc., 14-14.35 Mc., 21-21.75 Mc., 28-29.7 Mc., and 50-54 Mc.

NOTE: This control also switches bands in the transmitter.

Bandswitch #2: This control selects the frequency range of the pi matching system, which functions as receiver input circuit, and transmitter output circuit. It has 5 ranges, marked "3.5, 7, 14, 21-28, 50". Note that the 21 and 28 Mc. bands are included in the same position.

TRANSMITTER CONTROLS

Function Control:	
Position 1	FIL.OFF reduces heater drain when receiving only.
Position 2	Tune. Voltage applied only to oscillator. Mult. meter registers grid MA. to final amplifier.
Position 3	Low Power. Plate and loading should be adjusted inthis position to load to 2 or 3 on meter scale. Approximately 20 watts input to final A°M° phone.
Position 4	High power. Full HV applied to final and modulator. Approximately 100 watts A.M.
Position 5	CW. Voltage removed from modulator and modulation transformer shorted out. Approximately 120 watts input. NOTE: Meter reads total cathode current to final amplifier in Positions 4 and 5.
V F O:	Driven by a planetary drive on 3.5, 7, 14, 21 and 28 Mc. ranges. Not operative in the 50 Mc. band. Two sockets are provided for 6- meter crystals or external VFO.
Spot:	Toggle switch turns VFO on for monitoring frequency in receiver. Also functions with crystals when they are used.
Grid:	With function switch in "tune" position, this control is adjusted for maximum grid current, as indicated by the tuning meter.
Drive:	3 positions, marked "1-2-3", indicating low, medium and high respectively. After tuning "grid" for maximum grid current, the drive control is set to the position which falls within the grid current range on the meter scale.
Plate:	Tunes final plate circuit. With the function switch in low or high power, or CW position, tune plate control for dip in meter indication.
Loading:	Output capacitor of pi matching system. Adjust for increase in TUNE position for meter reading of 2 or 3 on the meter scale. adjust for final cathode current of 150 MA max, "plate" tuned for dip, function switch in high power position.
Main Supply Switch:	Heavy-duty toggle turns supply on or off.

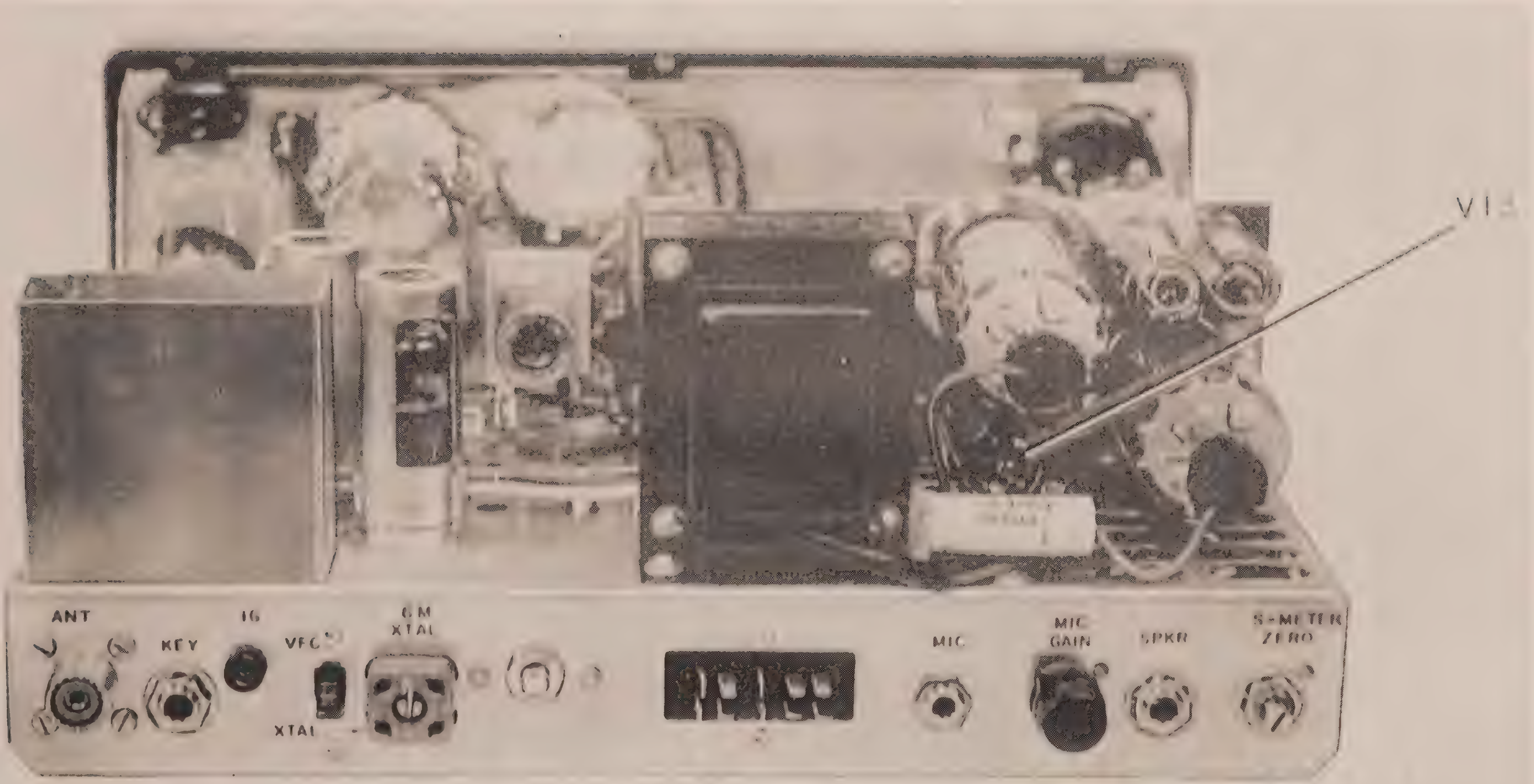


FIG. 3 REAR VIEW

REAR CONTROLS

CW Key Jack:	Driver Cathode Keying
Test Jack:	Final amplifier grid current. For metering grid current when final is operating. (Grid current is metered with panel meter when function switch is in "tune" position, but not when final is actually operating.)
VFO/Crystal Switch:	For switching from VFO to crystal operation.
Crystal Socket:	Dual type for low frequency bands and 6-meter band. (VFO does not operate in 6-meter, 50 Mc. band.) NOTE: Two crystals may be inserted in this dual socket for 6 meters, and selection between them made with the VFO crystal switch.
Power Connector Plug	
Microphone Jack	
Microphone Gain Control	
Speaker Jack	
S Meter Zero Adjust	
Antenna Connector Jack	UHF, coax type SO-239.

INSTALLATION

After unpacking the Gonset G-76 Transceiver, check to make sure all tubes are in place. Check all controls for normal movement. Turn main power switch to OFF position.

For fixed-station operation, connect the Gonset G-76 A.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting A.C. cord to power line.

For mobile operation, connect the Gonset G-76 D.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting positive and negative terminals of power supply to 13.4 volt D.C. source.

(3) Connecting 3.2 ohm speaker to speaker jack at back of chassis.

High voltage to final amplifier and modulator does not appear anywhere in the transceiver proper until the T/R relays close. A relay built into the A.C. power supply, and the D.C. power supply, disconnects the H.V. lead from the supply and grounds it. Thus, when in receive position, the highest voltage present in the transceiver is the nominal 275 volts D.C. from the medium voltage supply. The protective H.V. relay in the power supply is energized when the T/R relays in the transceiver close.

The T/R relay will not operate when the transmitter function switch is in the "FIL OFF" position. In this position, heater current to the modulators and final amplifier is disconnected, conserving battery power when receiving only, and also preventing accidental tripping of the T/R button of the microphone.

The T/R relays will not operate when the VFO "SPOT" switch is on. The transmitter will not operate in the "SPOT" position due to lack of excitation, and final amplifier tube failure could occur before it is realized that the VFO switch was unintentionally left on the "SPOT" position. With the built-in safety feature, the T/R relays will not function until the VFO switch is down in the operate position.

The A.C. power supply includes a high voltage slo-blo fuse to protect it from high voltage short circuits, as well as a fused line plug.

RECEIVER OPERATION

Amplitude Modulated Signals:

(A) Supply Switch.................On.

(B) T/R Switch....................Receive position.

(C) Function Control.............Position 2.

(D) ANL...........................OFF or ON, as required.

(E) Bandswitch #1.................Set to desired range.

(F) Bandswitch #2.................Set to desired range.

(G) Tuning Dial...................Adjust for maximum "S" meter reading on desired signal.

(H) Plate and Loading Adjustment..........When using the G-76 for receiving only, the Pi network should be adjusted for maximum "S" meter reading on a signal. IMPORTANT: See Note (4) Operating Notes.

(I) Volume Control................Set to desired volume level.

Single Sideband Signals:

(A) Supply Switch.................On.

(B) T/R Switch....................Receive position.

(C) Function Control.............Position 3.

(D) Bandswitch #1.................Set to desired range

(E) Bandswitch #2.................Set to desired range.

(F) BFO Frequency.................Set to "U" for upper sideband, or "L" for lower sideband.

(G) Tuning Dial...................Adjust for most natural voice quality.

(H) Volume Control................Set to desired volume level.

CW Code Signals:

(A) Supply Switch.................On.

(B) T/R Switch....................Receive position.

(C) Function Control.............Position 3.

(D) Bandswitch #1.................Set to desired range.

(E) Bandswitch #2.................Set to desired range.

(F) BFO Frequency .... Set to either "U" or "L" mark.

(G) Tuning Control............ Adjust for maximum loudness of desired CW signal. Then go back to the BFO control and set it for desired pitch. This adjustment need only be made when it is found desirable to change pitch.

(H) Volume Control............ Set to desired volume level.

OPERATING NOTES:

(1) To check tuning dial calibration accuracy, switch the calibrator on (receiver function control, Positions 1 or 4), and locate the nearest 100 Kc. marker signal on the dial. Ordinarily the dial set control will set very close to 12 o'clock (straight up) when the tuning dial is reading correctly. With long-term aging effects, humidity, etc., dial accuracy may gradually shift, requiring compensation with the dial set control to varying degrees on each band. Eventually, the oscillator adjustments should be reset to restore original dial accuracy (See alignment procedure). These effects are generally spread over many months of operation. Note that the 100 Kc. calibrator (Gonset Model 3269) is an optional plug-in accessory and must be purchased as an extra.

(2) If it is not known which sideband a station is transmitting, it may be necessary to first try one side, and then the other. It will be found that when the BFO is set to the wrong side, the signal cannot be tuned to an understandable point. In such a case, move the BFO control to the other side, and adjust the tuning dial again until a natural voice is heard.

(3) Pi input circuit (plate tuning and loading) may be adjusted for maximum sensitivity. However, these adjustments are mose effectively made while adjusting the transmitter.

(4) Whenever the Pi controls have been adjusted for transmitting on a particular band, DO NOT READJUST WHEN RECEIVING. These controls are fairly broad for receiving, and each amateur band may be tuned over the entire range without readjustment. For transmitting these controls are quite sharp and critical. Thus, once they are adjusted for transmit, they should be left along while receiving.

TRANSMITTER OPERATION

CAUTION: The following steps must be followed in sequence to prevent damage to the final amplifier.

Amplitude Modulated Signals:

(A) Power Switch.............On.

(B) Tune receiver to desired frequency.

(C) Spot Switch..............Spot position and adjust **VFO** for maximum meter indication.

(D) Spot Switch..............Off.

(E) Loading Control..........Minimum or CCW.

(F) Transmitter Function Switch..."Tune" Position.

(G) Drive Control..............Position 1 on 80, 40 & 20 meters. Position 2 or 3 on 10, 15 & 6 meters.

(H) T/R Switch.................Transmit position.

(I) Grid Tuning................Maximum meter indication.

(J) Drive Control..............Set to position corresponding to IG range on meter scale. (NOTE: Minimum of 1/2 to 2 miles as measured at IG meter jack on rear of unit).

(K) Transmitter Function Switch...Low Power

(L) Plate Tuning...............Quickly adjust for sharp dip in meter reading.

(M) Plate Loading..............Increase gradually while adjusting plate control for meter dip until meter reads between 2 and 3.

(N) T/R Switch.................Off

(O) T/R Function Switch........High Power

(P) T/R Switch.................ON

(Q) Loading Control............Increase gradually while adjusting plate control for meter dip, until meter reads 150 MA max.

Caution

Do not change function switch from low to high or high to low power with T/R switch in "ON" position.

CW Signals:

(A) Follow above steps for amplitude modulated signals.

(B) Transmitter Function Switch.....CW position.

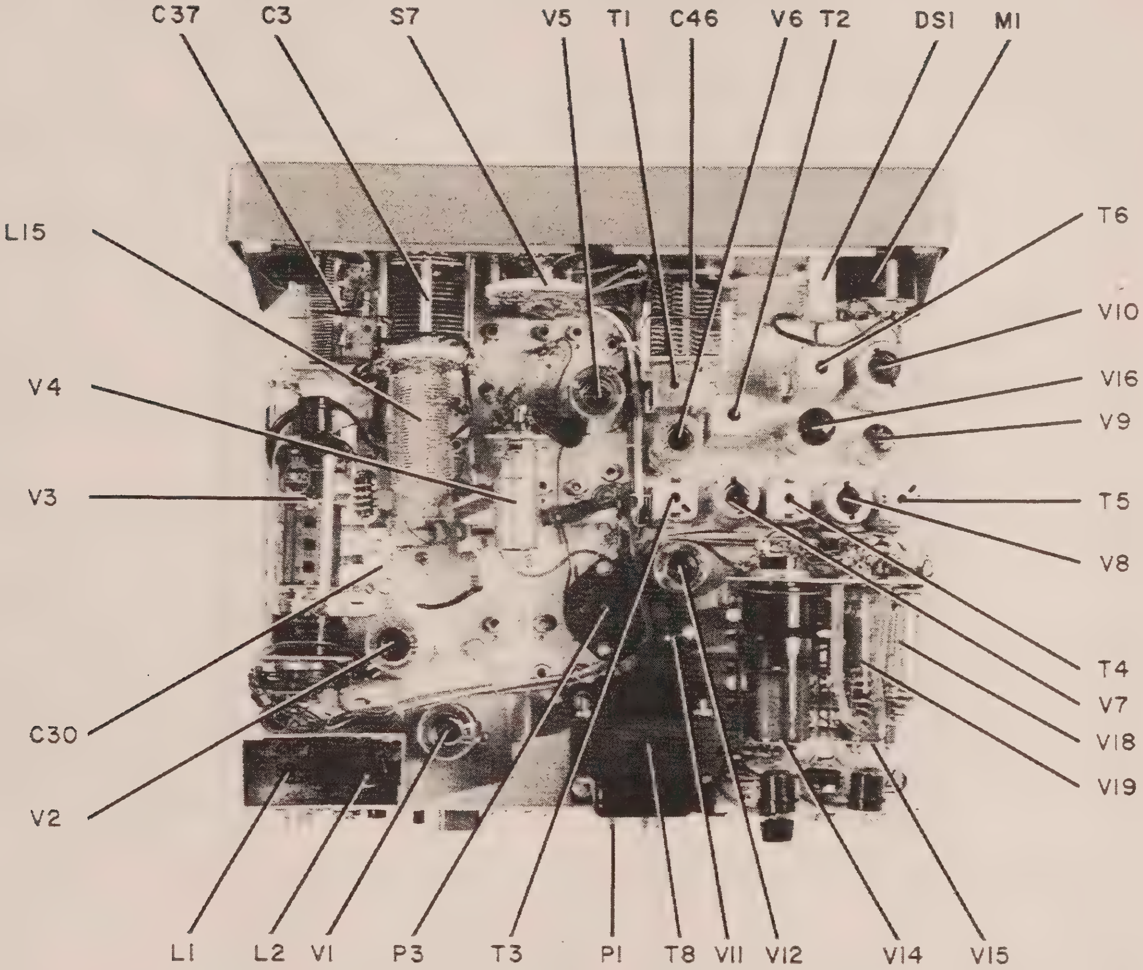


FIG. 4 CHASSIS, TOP VIEW

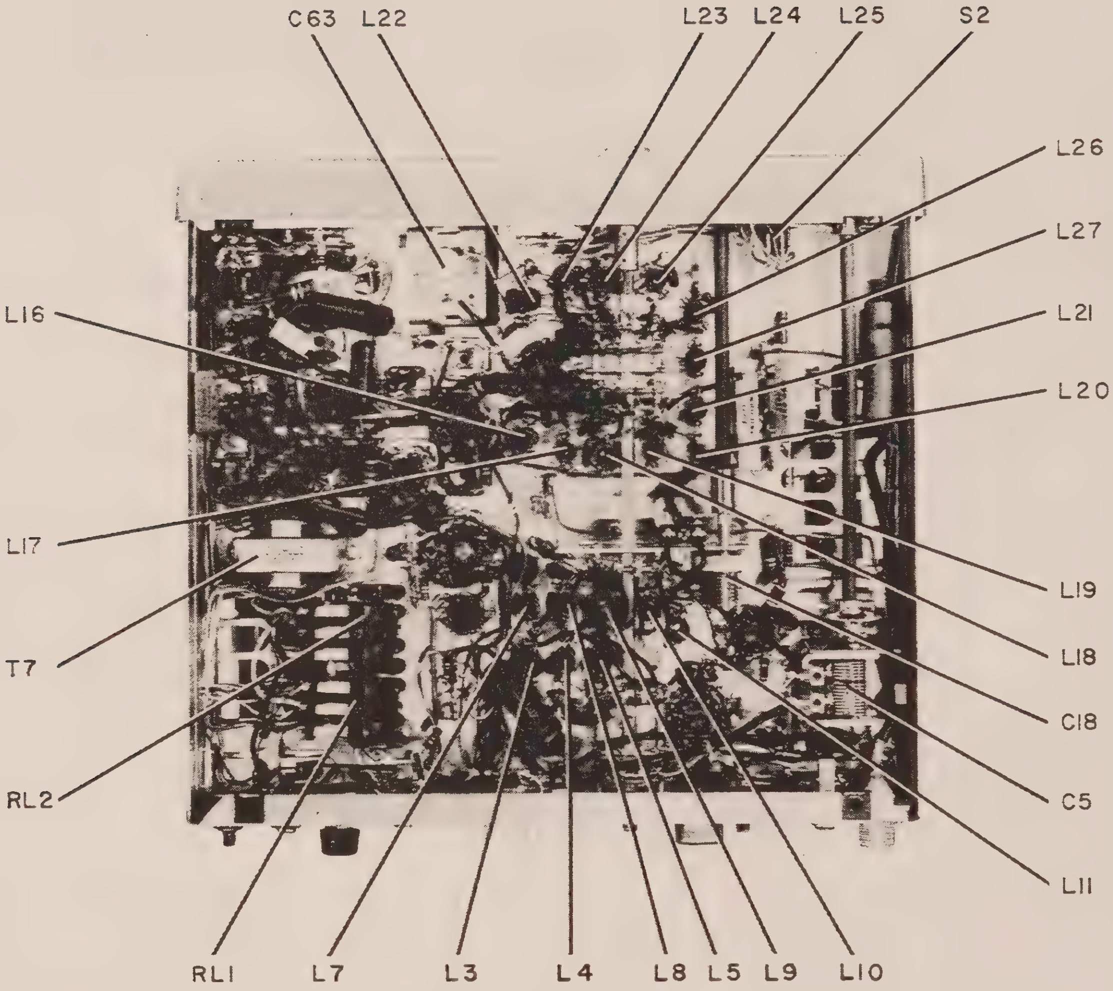


FIG. 5 CHASSIS, BOTTOM VIEW

RECEIVER ALIGNMENT

(Trans. Function Switch at "FIL.OFF")

Step #1

262 Kc. I.F. (1) Connect Signal Generator to Pin 7 of 6BE6 (V6). Use blocking capacitor to protect generator. Approximately .01 mfd. Peak I.F. transformers, T3, T4 and T5 top and bottom, for maximum AVC. Receiver function switch in "AM" position.

(2) After peaking T3, T4 and T5, switch receiver function to "CW-SSB". Set BFO control to 12 o'clock. Adjust T6 (top adjust. only) for zero beat with signal generator. (Generator still set to 262 Kc.)

Step #2

2065 Kc. I.F. Receiver Function set to "AM".

(1) Connect Signal Generator to Pin 2 of 6U8A (V5). Set generator frequency to exactly 2065 Kc. Adjust 2327 Kc. Oscillator (T2) until signal appears.

(2) With Signal Generator set to 2065 Kc., adjust transformer, T1, Top and Bottom, for peak AVC.

Step #3

50 Mc. band alignment...Connect Signal Generator to antenna connector on rear of chassis. Bandswitches both set to "50 Mc." position. Receiver function selector set to "AM" position. Dial set control at 12 o'clock. Set receiver tuning dial to 50 Mc. position. Set signal generator to exactly 50 Mc. (Or, preferably, use a crystal-controlled signal at 50 Mc., or some sub-multiple of 50 Mc.)

(1) Adjust receiver oscillator coil, L27, until signal tunes in at 50 Mc. point on tuning dial.

(2) Set signal generator to exactly 54 Mc. and check high frequency end of tuning dial. Signal should appear at 54 Mc. mark. If it does not, adjust trimmer, C63, until it does.

(3) Go back and check 50 Mc. By adjusting coil, L27, at 50 Mc., and trimmer, C63, at 54 Mc., repeat until 50 and 54 Mc. appear at their respective markings on the dial.

(4) Adjust coil, L21, for maximum AVC voltage.

(5) Recheck 50 and 54 Mc. points for possible interaction from L21 adjustment.

(6) Pi input circuit (plate tuning and loading) may be peaked for maximum AVC, although this is not essential unless sensitivity measurements are being conducted.

Step #4

Alignment, HF bands...After the 50 Mc. VHF band has been properly aligned, as per Step 3, the other bands may be aligned. Following the accompanying chart, adjust the oscillator and mixer coils at the given frequencies.

Band	Sign. Gen. Freq.	Oscillator Coil	Mixer Coil
28 Mc.	28.7	L26	L20
21	21.3	L25	L19
14	14.2	L24	L18
7	7.2	L23	L17
3.5	3.8	L22	L16

Adjust the oscillator coils until the generator signal appears at the correct dial position. Then adjust the mixer coil for maximum signal. Finally, recheck the oscillator setting for possible interaction from mixer tuning.

Note that the 5 HF bands have only one oscillator adjustment. Trimmer C63 is to be used only for tracking the 50-54 Mc. band, after which the HF bands should track closely. If any of the HF bands do not track closely, it means that capacity tolerances are off, and a capacitor change may be necessary.

The Pi input circuit need not be tuned for peak signal when adjusting the oscillator or mixer. For sensitivity measurements, however, the Pi network should be set to the proper band, and adjusted for maximum signal.

Sensitivity of the G-76 receiver section will measure approximately 6 db signal-plus-noise to noise ratio with an input of 1 microvolt at 50 ohms.

Image Rejection, typical figures:

60 db at 3.5 Mc.
60 db at 7 Mc.
50 db at 14 Mc.
45 db at 21 Mc.
40 db at 28 Mc.
30 db at 50 Mc

The primary image will occur at a frequency 4.13 Mc. higher than the desired signal, except in the 50-54 Mc. band, where the image will occur 4.13 Mc. below the signal.

Selectivity: 3 Kc. at 6 db down, nominal. Less than 14 Kc. wide at 60 db down.

TRANSMITTER ALIGNMENT

Step #1 - VFO Adjustment

(1) Set bandswitches to 7 Mc. and receiver function switch to A.M. Set receiver tuning dial to 7 Mc. Set VFO crystal switch on rear of chassis to VFO position. Throw VFO spot switch up to "SPOT" position. Set VFO control to 7 Mc. and adjust L1, top of rear - right shield can, until a strong signal is received. This adjustment sets the VFO frequency for the 3.5-4 and 7-7.3 Mc. bands.

(2) Set bandswitches to 14 Mc., receiver function to A.M., and receiver tuning dial to 14 Mc. Set VFO control dial to 14 Mc. and throw switch to "SPOT" position. Adjust L2, top of shield can next to L1, until a signal is received. This adjustment sets the VFO for the 14-14.35, 21-21.45 and 28-29.7 Mc. bands.

NOTE: The 50 Mc. band does not use the VFO, but requires a crystal of 8.334 to 9 Mc. frequency inserted in the upper crystal position at the back of the chassis. Crystals may be used on the lower HF bands by inserting them in the lower crystal position, and switching the rear slide switch down to the "Xtal" position.

Step #2 - Oscillator Plate and Multiplier Adjustment

(1) 80 Meters...set transmitter function switch to "TUNE" position, "SPOT" switch down, bandswitches at 3.5 Mc. position, and VFO dial at 7 Mc. Set "DRIVE" control at Position #1. Throw T/R toggle switch up to the transmit position. In the tune position, only the 12BY7's in the oscillator and multiplier stages are functioning, so there is no concern for the final amp. or modulator at this time. Adjust the "Grid" tuning for maximum meter indication. At 4 Mc. the grid tuning capacitor should be nearly open. The adjustable core of L7 should be left at a position where both 3.5 and 4 Mc. can be peaked with the grid tuning dial.

(2) 40 Meters...set bandswitches to 7 Mc. position, and VFO dial to 7 Mc. with T/R switch in "T" position, adjust "Grid" tuning for maximum meter reading. This should occur with the grid tuning capacitor about 80% meshed. Adjust Coil L8 for this condition. Now, set the VFO to approximately 7.2 Mc. and adjust Coil L3 for maximum meter reading. L3 is the oscillator plate coil.

(3) 20 Meters...set bandswitches to 14 Mc. and VFO dial to 14 Mc. With the T/R switch up in the "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 80% meshed. Coil L9, associated with this band, is not adjustable. This test merely serves as a check on L9 and its associated capacitor C21.

(4) 15 Meters...set bandswitches to 21 Mc. and VFO dial to 21.25 Mc. With the T/R switch in "T" position, adjust grid tuning for maximum meter reading. This should occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L4, the oscillator plate coil for maximum meter reading.

(5) 10 Meters...set bandswitches to 28 Mc. and VFO to 29 Mc. With T/R switch in "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L5, the oscillator plate coil, for maximum meter reading.

(6) 6 Meters...set bandswitches to 50 Mc. Insert a 6-meter crystal in upper crystal socket. Its frequency must be between 8334 and 9000 Kc., preferably somewhere in the lower part of this range. Switch to "T" position and adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed.

Step #3 - Final Power Amp. Adjustment

(1) Connect dummy load, 52 ohm impedance to antenna jack.

(2) Set neutralizing capacitor tentatively to about 25% mesh.

(3) Set bandswitches to 3.5 Mc., VFO dial to 3.8 Mc., tune grid circuit, as per preceding instructions. After peaking grid current (meter reading) with the grid tuning dial, set the drive control to position which provides a meter reading nearest to the "1G" range on the meter scale. On 80 meters, this will most likely be with drive in Position 1.

(4) Turn the loading control to minimum, CCW position. Now set the transmitter function switch to low power, and T/R switch to "T" position. Quickly adjust plate tuning for a sharp dip in meter reading (1P). Now switch to high power position. CAUTION: Dangerous voltages are present in the circuitry at this time. Keep hands out!

The output power indicator (watt meter) should now be indicating about 30 watts of power. Gradually increase the loading control, at the same time carefully tuning the plate control for meter dip, until the meter reads 150 to 160 MA. This is the operating range for A.M. phone in the high power position. Power input to the 6DQ5 is now approximately 100 watts.

(5) Repeat the above procedure on each of the other bands. Always keep the plate tuning adjusted for the dip in meter reading, particularly in the high power position, as the 6DQ5 can be seriously overloaded if this is not done.

(6) Neutralization. This adjustment must be a compromise, since it changes slightly between bands. Tentatively, make neutralizing checks on 15 meters first. Adjust the trimmer C30 until the meter reading does not increase sharply under modulation. Preferably, it should not increase at all. Grid tuning will have some reaction on this adjustment.

(7) 6-meter neutralization employs a feedback link which must also be adjusted for minimum increase of meter reading. This link is not a critical adjustment, but polarity must be correct. The twisted line which connects the links is color coded. If connected the wrong way, the amplifier will, of course, be extremely unstable on 6 meters.

(8) Modulation. Set the Mic. Gain to about its mid-point and insert a high impedance mike (Gonset 3240) in the jack. The swing in modulator plate current will not show on the front panel meter. The percentage of modulation should be checked by some external means.

(9) A test jack on the chassis rear may be used for metering grid current when final amp. is operating. Nominal grid current is 2 MA.

TRANSMITTER VOLTAGE CHART

14 Mc. Band - VFO Control

Tube	Pin Numbers								
	1	2	3	4	5	6	7	8	9
(Spot Switch UP)									
V1 12BY7A	0	-7	0	0	12.6AC	6.3AC	+110	+105	0
V2 12BY7A	0	-10	0	0	12.6AC	6.3AC	+12	+.5	0
(Tune Position - 6DQ5 and 6DQ6's not operating)									
V1 12BY7A	0	-11	0	0	12.6AC	6.3AC	+260	+150	0
V2 12BY7A	0	-15	0	0	12.6AC	6.3AC	+260	+100 Lo +140 M +210 Hi	0
V3 6DQ5	-50	0	0	-7	-50	0	6.3AC	-7	Cap -7
(Lo Power Position - 6DQ5 and 6DQ6's operating at med. voltage)									
V3 6DQ5	-43	0	+1	+55	-43	+1	6.3AC	+55	Cap Do not meas.
V12 12AX7	+100	0	+1	0	12.6AC	+84	-7	0	6.3AC
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +225
(Hi Power Position - 6DQ5 and 6DQ6's operating at high voltage)									
V3 6DQ5	-45	0	+4	+115	-45	+4	6.3AC	+115	Cap Do not meas.
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +625 (Caution)

RECEIVER VOLTAGE CHART

Tube	Pin Numbers								
	1	2	3	4	5	6	7	8	9
V4 6BZ6	-2.5	0	6.3*	0	+250	+140	0	---	---
V5 6U8A	+35	-2	+35	6.3*	0	+275	0	0	-2
V6 6BE6	-7	0	12.6*	6.3*	+265	+100	-2	---	---
V7 12BA6	-2.5	0	0	12.6*	-215	+85	+1.2	---	---
V8 12BA6	0	0	12.6*	0	+245	+70	+1.7	---	---
V9 12AL5	0	-1.6	0	9*	-.5	0	-2.7	---	---
V10 12AU7	+240	0	+85	0	12.6*	+40	0	+2	6.3*
V11 OB2	+105	0	0	0	+105	0	0	---	---
V12 12AX7	-.7	-.7	0	0	12.6*	+90	-.7	0	6.3*
V13 6CM6	+275	+17	0	12.6*	6.3*	0	+17	0	+265

Bandswitch at 14 Mc.
Receiver Function Switch at "AM CAL."
Transmitter Function Switch at "FIL OFF"
Antenna Disconnected.
*A.C. volts

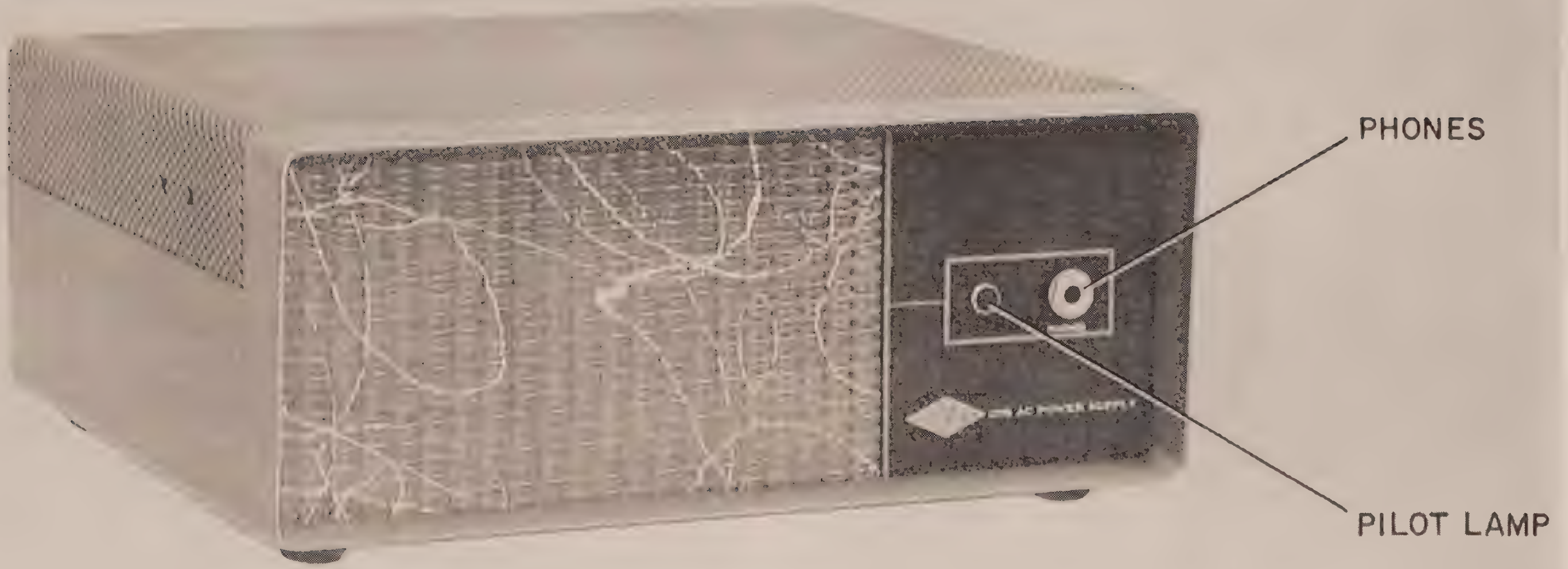


FIG. 6, A.C. POWER SUPPLY

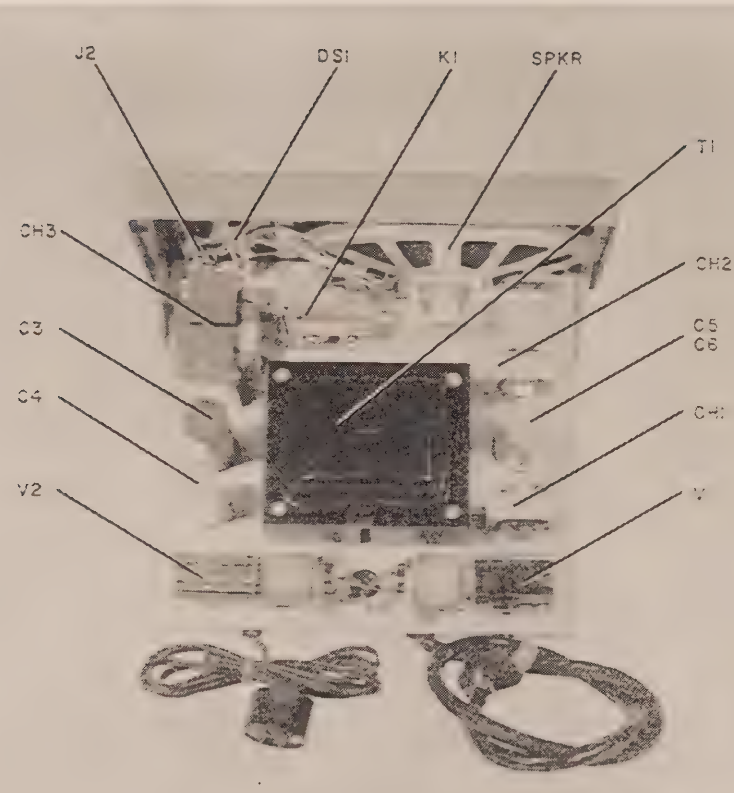


FIG. 7 A.C. POWER SUPPLY, TOP VIEW

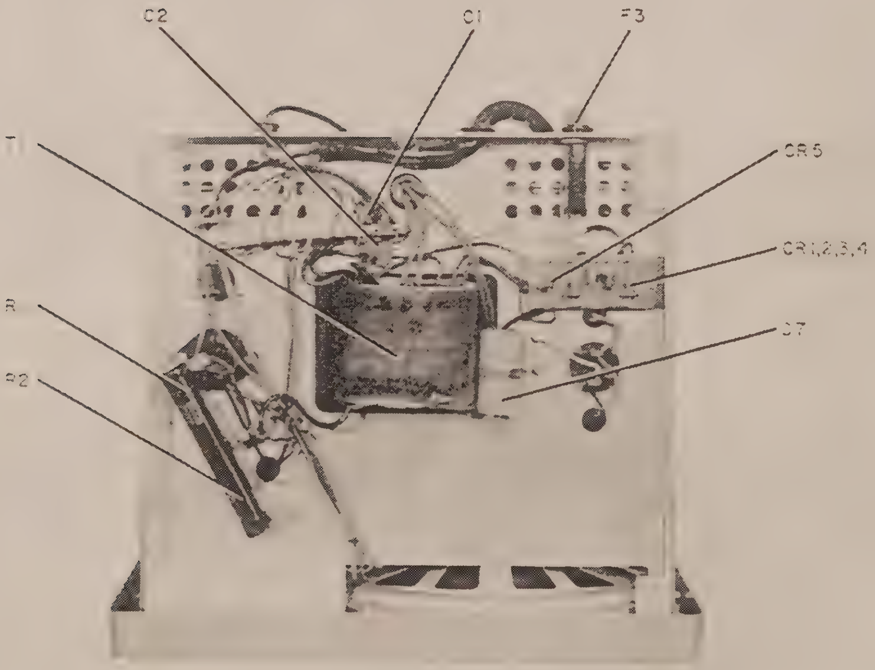
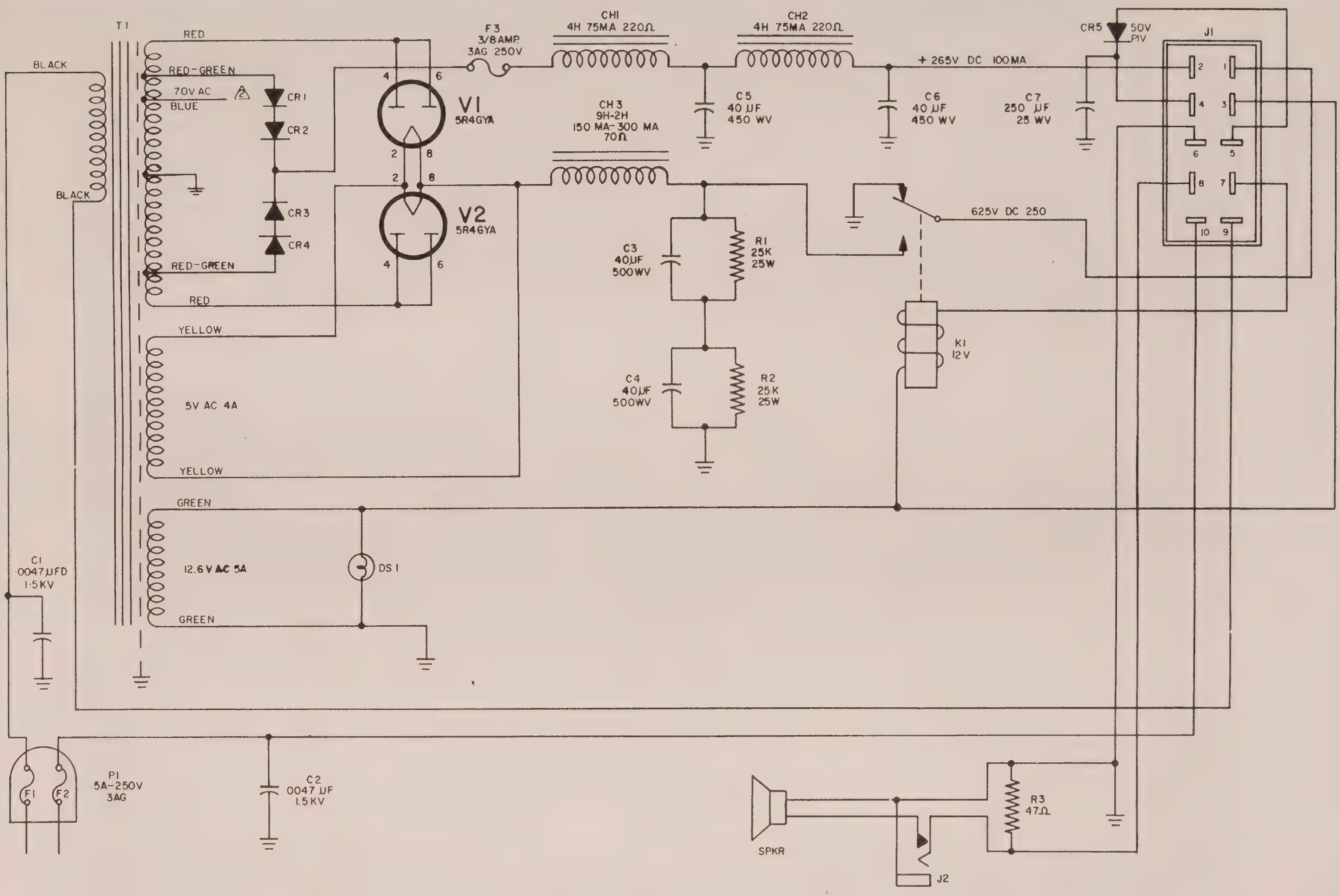


FIG. 8 A.C. POWER SUPPLY, BOTTOM VIEW



6. RIPPLE ON 265VDC LINE, .05 VRMS
5. % OF REGULATION ON 265VDC LINE, 10% (90MA-120MA)
4. RIPPLE ON 625 VDC, 5.0VRMS
3. % OF REGULATION ON 625 VDC LINE, 10% (50MA-250MA)
2. 70V AC NOT USED THIS CIRCUIT
1. J1 VIEWED FROM WIRING SIDE
NOTE:

G-76 AC POWER SUPPLY

510-086 6-28-60

LETT	CHANGE	APP.	DATE
A	CHANGED LOCATION OF F3		11-10-6

G-76 AC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 117 VAC at 3 amps. Receive - 117 VAC at 1.5 amps.
High Voltage Output:	600 VDC at 250 MA. Regulations 10%, Ripple 5.0 VRMS
	265 VDC at 120 MA. Regulation 10%, Ripple .05 VRMS
Filament Output:	12.6 VAC @ 5 amps.
Dimensions:	12-5/8" wide, 5-1/8" high, 10-1/2" deep.
Fuses:	2-5 amp. 250 V. 3 AG 1-3/4 amp. 250 V. 3 AG

G-76 DC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 13.4 VDC at 22.5 amps. Receive - 13.4 VDC at 10 amps.
High Voltage Output:	600 VDC at 300 MA. Regulation 10%, Ripple 2.5 VRMS
	250 VDC at 130 MA. Regulation 10%, Ripple .8 VRMS.
Filament Output:	D.C. input carried through.
Dimensions:	8.18" wide, 3-1/2" high, 6-1/2" deep.
Fuses:	2-30 amp. suggested.

SHIPPING WEIGHT

D.C. Power Supply:	10 pounds
A.C. Power Supply:	32 pounds

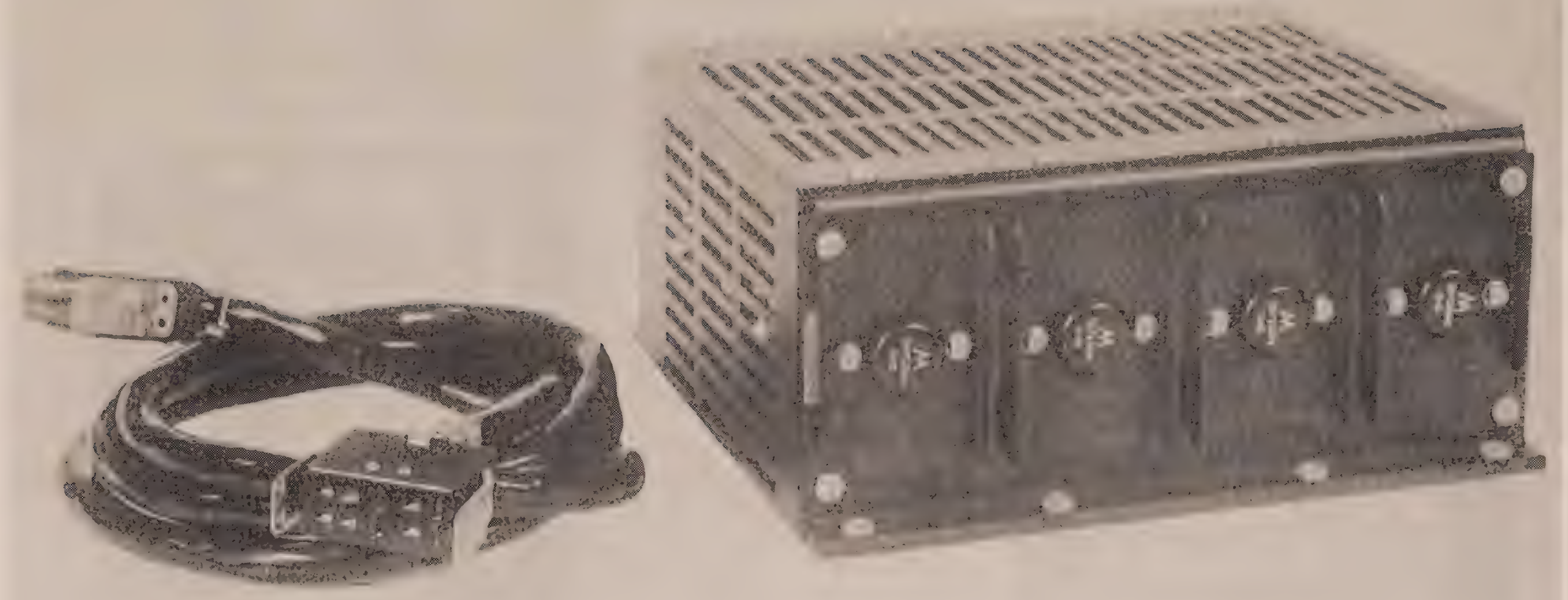


FIG. 9 D. C. POWER SUPPLY

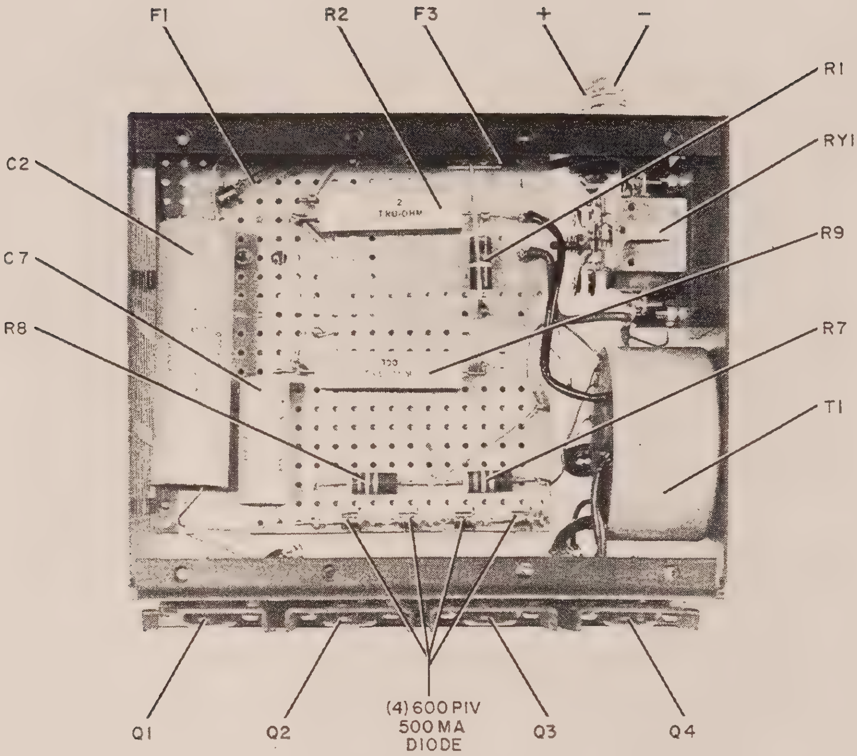


FIG. 10 D.C. POWER SUPPLY, TOP VIEW

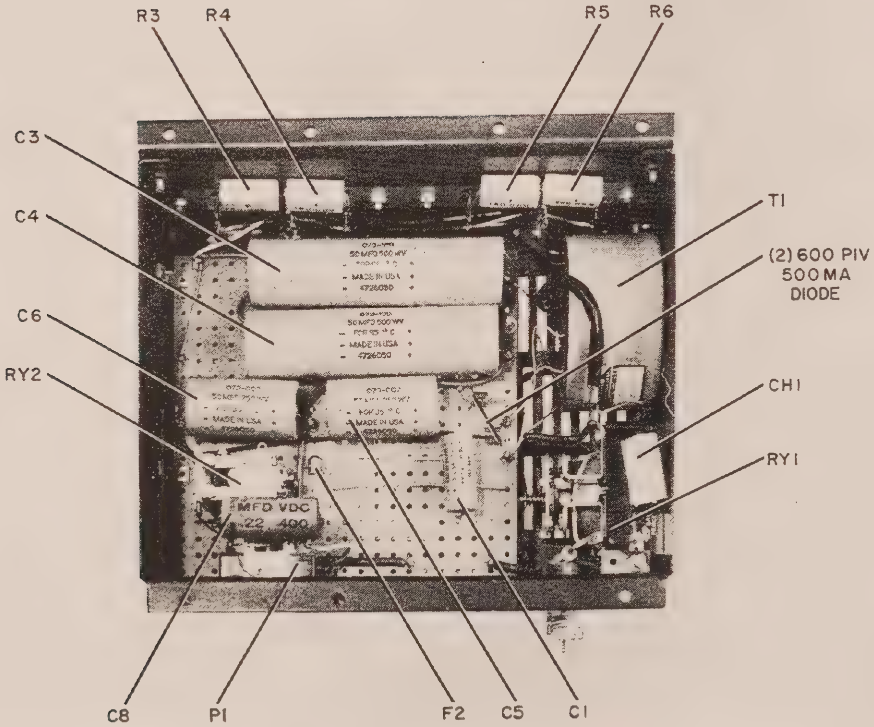
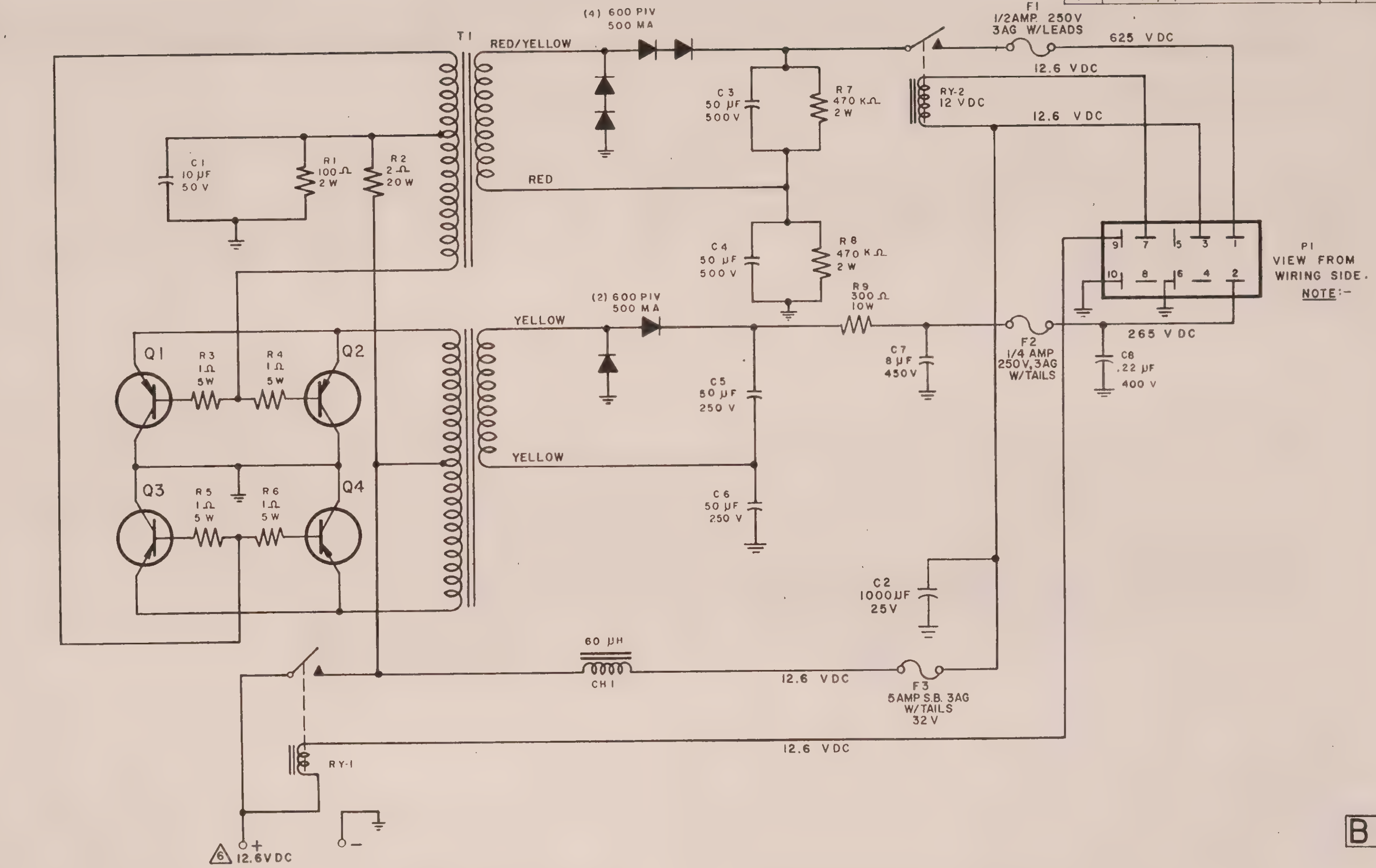


FIG. 11 D.C. POWER SUPPLY, BOTTOM VIEW

LET	REVISION	APP.	DATE
A	ADDED: C8.		
B	ADDED: F1, F2, F3.–DELETE GREEN TAP		11-10-60



B CHG

G-76 D.C. POWER SUPPLY

6 USE 13.4 VDC FOR TEST PURPOSES

4. RIPPLE ON 265VDC LINE .8VRMS
3. % OF REGULATION ON 265VDC LINE, 10% (130MA–95MA)
2. RIPPLE ON 650VDC LINE 2.5VRMS
1. % OF REGULATION ON 650VDC LINE, 10% (300MA–50MA)

NOTES:

510-085 6-21-60

MISCELLANEOUS COMPONENTS

Schematic No.	Description	Gonset Part No.
RFC 1	R-F Choke, 200 µH	027-017
RFC 2	R-F Choke, 200 µH	027-017
RFC 3	R-F Choke, 50 µH	027-018
RFC 4	R-F Choke, 200 µH	027-017
RFC 5	R-F Choke, 80 µH	027-081
RFC 6	R-F Choke, 200 µH	027-017
RFC 7	R-F Choke, 2.2 µH	027-053
S1	Band Switch Shaft Assembly only	171-110
S1A	Receiver Osc. Plate Wafer	171-111
S1B	Receiver Osc. Grid Wafer	171-112
S1C	Receiver Mixer Grid Wafer	171-112
S1D	Receiver R-F Plate Wafer	171-111
S1E	Transmitter Final Grid Wafer	171-113
S1F	Transmitter Osc Plate Wafer	171-113
S1G	VFO H-F Section	171-114
S1H	VFO L-F Section	171-114
S2	VFO-Crystal Switch DPDT	172-002
S3A-B	Osc. Spot Switch	172-045
S4	Drive Control Switch	171-106
S5	Bandswitch, Antenna Tuner Switch	171-108
S6	Receiver Function Switch	171-109
S7	Transmitter Function Switch	171-107
S8	Transmit-Receive Switch	172-010
S9	Power On-Off Switch	172-010
RL1 A-B-C	Relay 3P2T, 6 VDC	111-090
RL2 A-B-C	Relay 3P2T, 6 VDC	111-090
M1	Meter	112-035
J1	Antenna Connector Receptacle	344-011
J2	Grid Test Tip Jack	342-018
J3	Key Jack, Closed Circuit	342-001
J4	Speaker Jack, Closed Circuit	342-001
J5	Microphone Jack, 3-Circuit	342-002
P1	10-Pin Connector Receptacle	344-173
P2	Dual Crystal Socket	345-008
P3	Crystal Calibrator Accessory Socket	341-518
DS1	Dial Lamp #1815	471-004
SD1	Selenium Diode 92 PIV	475-012
Z1	Printed Noise Limiter Circuit	069-004

ELECTRON TUBES

Schematic No.	Description	Gonset Part No.
V1	12BY7A	472-029
V2	12BY7A	472-029
V3	676G	472-101
V4	6BZ6	472-041
V5	6U8A	472-005
V6	6BE6	472-010
V7	12BA6	472-063
V8	12BA6	472-063
V9	12AL5	472-055
V10	12AUTA	472-094
V11	0A2	472-049
V12	12AX7	472-022
V13	6CM6	472-038
V14	6DO6B	472-511
V15	6DO6B	472-511
V16	OB2	472-032
V17	12AO5	472-065
V18	OB2	472-032

REPLACEMENT PARTS LIST

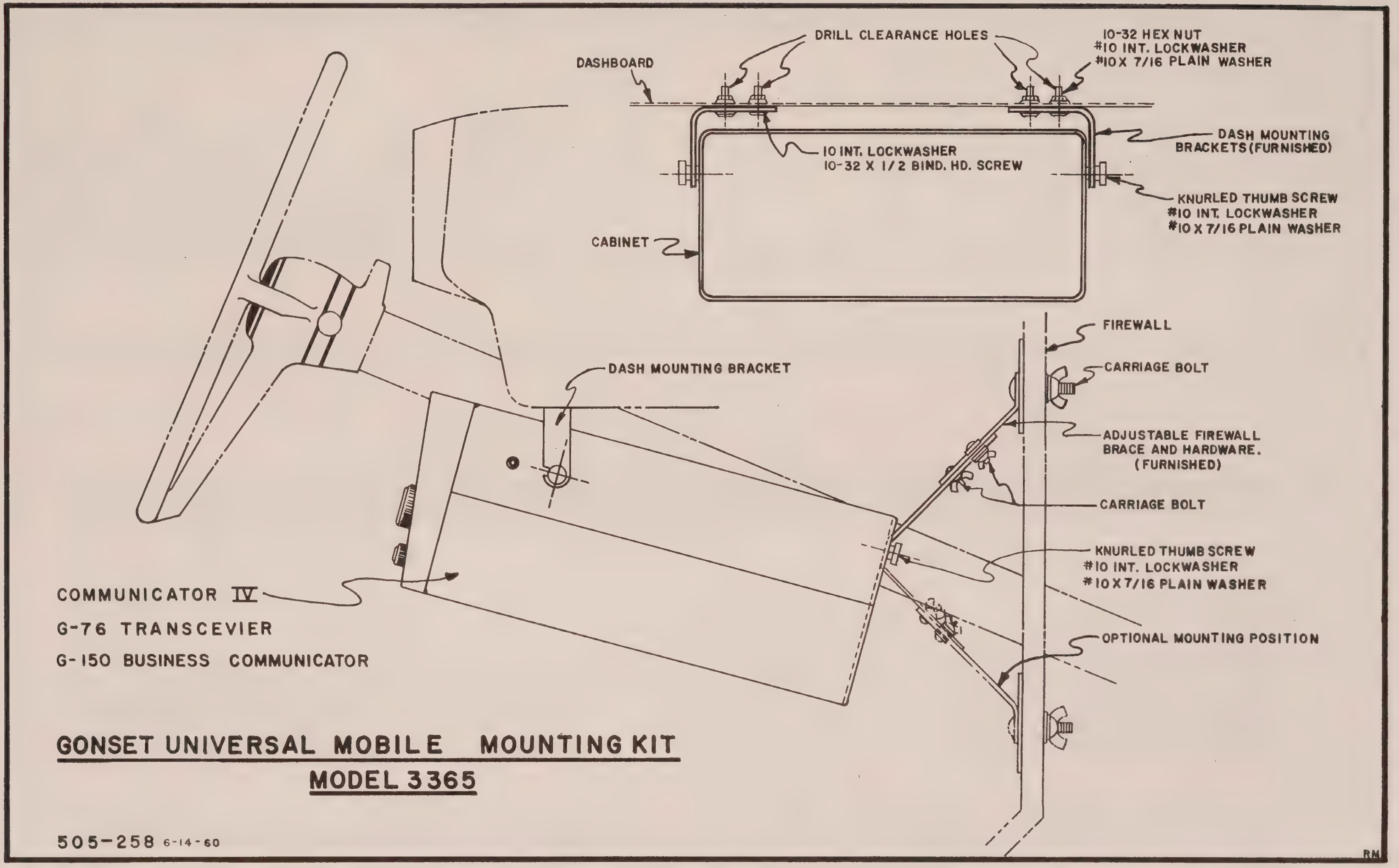
Gonset Part No.	Description	No. Req.
212-019	Knob, With Pointer	1
263-630	Washer, Felt	1
211-006	Knob, Medium (W/Index)	9
211-007	Knob, Small (W/Index)	1
211-005	Knob, Large (W/Index)	1
212-004	Knob, Large	1
212-053	Knob, Medium	1
465-084	Cabinet Weldment	1
114-007	Planetary Drive Assembly (VFO)	1
351-040	Dial Lamp Socket	1
112-035	Meter	1
463-005	Bezel (Die Cast)	1
505-251	Front Panel	1
520-535	Instruction Manual	1
505-253	Dial Receiver	1
505-226	VFO Dial	1
505-267	Dial Window	1

D.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1	100 Ω 2 watts	044-101
R2	2 Ω 20 watts	049-084
R3	1 Ω 5 watts	049-080
R4	1 Ω 5 watts	049-080
R5	1 Ω 5 watts	049-080
R6	1 Ω 5 watts	049-080
R7	470 KΩ 2 watts	044-474
R8	470 KΩ 2 watts	044-474
R9	300 Ω 10 watts	049-088
C1	10 µF 50 V.	073-131
C2	1000 µF 25 V.	073-132
C3	50 µF 500 V.	073-130
C4	50 µF 500 V.	073-130
C5	50 µF 250 V.	073-007
C6	50 µF 250 V.	073-007
C7	8 µF 450 V.	073-030
C8	.22 µF 400 V.	085-032
F1	1/2 Amp 250 V. 3 AG W/Leads	482-062
F2	1/4 Amp 250 V. 3 AG W/Leads	482-061
F3	5 Amp 32 V. 3 AG SB W/Leads	482-060
K1	Relay Input	111-095
K2	Relay B+	111-093
CH1	Hash Choke	027-027
T1	Transformer	271-082
CR1	Silicon Rectifier	474-022
CR2	Silicon Rectifier	474-022
CR3	Silicon Rectifier	474-022
CR4	Silicon Rectifier	474-022
CR5	Silicon Rectifier	474-022
CR6	Silicon Rectifier	474-022
Q1	Transistor	476-006
Q2	Transistor	476-006
Q3	Transistor	476-006
Q4	Transistor	476-006
P1	Power Connector	344-181
	Chassis Frame	443-065
	Top Plate	443-066
	Bottom Plate	443-067
	Power Cable	678-039

A.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1-2	50 KΩ 50 WCT	049-086
R3	47 Ω 1/2 watt	042-470
C1	.0047 µF 1.5 KV Disc	072-215
C2	.0047 µF 1.5 KV Disc	072-215
C3	40 µF 500 WVDC Insulated	073-129
C4	40 µF 500 WVDC	073-009
C5-6	2 x 40 µF 450 WVDC	073-029
C7	250 µF 25 WVDC	073-028
K1	Relay	111-092
CH1	Filter Choke	274-002
CH2	Filter Choke	274-002
CH3	Filter Choke	274-023
T1	Power Transformer	271-079
CR1	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR2	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR3	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR4	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR5	Silicon Rectifier 50 PIV @ 500 Ma.	474-004
F1	5 Amp @ 250 V. 3 AG	482-002
F2	5 Amp @ 250 V. 3 AG	482-002
F3	3/8 Amp @ 250 V. 3 AG	482-063
V1	Tube 5R4GYA	472-535
V2	Tube 5R4GYA	472-535
	Cable Assembly	678-041
	A.C. Cord	696-014
	Speaker 2.3 Ω	152-020
	Pilot Light Assembly	351-041
	Front Panel Assembly	453-482
	Cabinet Weldment	465-085
	Phone Jack	342-001



GONSET UNIVERSAL MOBILE MOUNTING KIT
MODEL 3365

505-258 6-14-60

CAPACITORS

Schematic No.	Description	Gonset Part No.
C1	750 µµF Silver Mica, Tol. ±1%	088-182
C2	3000 µµF Silver Mica, Tol. ±2%	088-183
C4	3000 µµF Silver Mica, Tol. ±2%	088-183
C5A-B	2-Section Variable	074-120
C6	470 µµF Silver Mica, Tol. ±5%	088-016
C7	22 µµF Tubular N750, Tol. ±5%	084-238
C8	150 µµF Silver Mica, Tol. ±5%	088-077
C9	.01 µF Disc 500 V. GP	072-173
C10	200 µµF Disc GPSL Tol. ±5%	072-225
C11	30 µµF Disc GPSL Tol. ±10%	072-206
C12	50 µµF Disc GPSL Tol. ±5%	072-131
C14	.01 µF Disc 500 V. GP	072-173
C15	10 µµF Tubular GPSL Tol. ±1 µµF	071-008
C16	.01 µF Disc 300 V. GP	072-169
C17	.01 µF Disc 500 V. GP	072-173
C18	Variable Grid Tuning	074-113
C19	68 µµF Silver Mica, Tol. ±5%	088-188
C20	100 µµF Silver Mica, Tol. ±5%	088-017
C21	33 µµF Silver Mica, Tol. ±5%	088-079
C22	100 µµF Tubular GP Tol. ±10%	071-013
C23	470 µµF Silver Mica, Tol. ±5%	088-016
C24	.01 µF Disc 300 V. GP	072-169
C25	.001 µF Disc 3 KV, GP	072-223
C26	.01 µF Disc 500 V. GP	072-173
C27	.01 µF Disc 500 V. GP	072-173
C28	.001 µF Disc 3 KV GP	072-223
C29	.001 µF Disc 3 KV GP	072-223
C30	Variable, Neutralizing	074-084
C31	.001 µF Foil Mica 2.5 KV, Tol. ±20%	087-070
C32	Variable, Plate Tuning	074-047
C33	33 µµF Silver Mica 2.5 KV, Tol. ±20%	088-187
C34	33 µµF Silver Mica 2.5 KV, Tol. ±20%	088-187
C35	33 µµF Silver Mica 2.5 KV, Tol. ±20%	088-187
C36	300 µµF Silver Mica, Tol. ±10%	088-185
C37	2-Section Variable, Output Load	074-119
C38	5 µµF Disc 3 KV, Tol. ±20%	074-224
C39	2 µµF Tubular, Tol. ±10%	071-003
C40	50 µF Electrolytic @ 25 Volt	073-058
C41	.01 µF Disc 300 V. GP	072-169
C42	.01 µF Disc 300 V. GP	072-169
C43	.01 µF Disc 500 V. GP	072-173
C44	47 µµF Disc GPSL, Tol. ±3%	072-220
C45	39 µµF Disc GPSL, Tol. ±3%	072-221
C46A-B	2-Section Variable	074-126
C47	22 µµF Tubular N750, Tol. ±5%	084-238
C48	3 µµF Tubular, Tol. ±5%	071-069
C49	5 µµF Tubular NPO, Tol. ±.5 µµF	084-117
C50	10 µµF Tubular GPSL, Tol. ±10%	071-013
C51	47 µµF Disc GPSL, Tol. ±3%	072-220
C52	22 µµF Tubular N750, Tol. ±5%	084-238
C53	68 µµF Disc GPSL, Tol. ±5%	072-219
C54	56 µµF Disc GPSL, Tol. ±5%	072-218
C55	.01 µF Disc 500 V. GP	072-173
C56	2.2 µµF Tubular NPO, Tol. ±.5 µµF	084-083
C57	470 µµF Silver Mica, Tol. ±5%	088-016
C58	100 µµF Silver Mica, Tol. ±5%	088-017
C59	22 µµF Tubular N080, Tol. ±5%	084-252
C60	160 µµF Silver Mica, Tol. ±1%	088-008
C61	39 µµF Tubular N330, Tol. ±3%	084-253
C62	Variable, Dial Set	074-112
C63	5-25 µµF Rotary Trimmer NPO	089-032
C64	18 µµF Silver Mica, Tol. ±1%	088-197
C65	160 µµF Silver Mica, Tol. ±1%	088-008
C66	220 µµF Silver Mica, Tol. ±1%	088-190
C67	120 µµF Silver Mica, Tol. ±1%	088-191
C68	82 µµF Silver Mica, Tol. ±1%	088-001
C70	.01 µF Disc 500 V. GP	072-173
C71	.01 µF Disc 300 V. GP	072-169
C72	22 µµF Disc N470, Tol. ±5%	084-243
C73	100 µµF Tubular GP, Tol. ±10%	071-013
C74	.01 µF Disc 500 V. GP	072-173
C75	.01 µF Disc 500 V. GP	072-173
C76	.01 µF Disc 300 V. GP	072-169
C77	.01 µF Disc 500 V. GP	072-173
C78	.01 µF Disc 500 V. GP	072-173
C79	.01 µF Disc 500 V. GP	072-173
C80	.01 µF Disc 500 V. GP	072-173
C81	.1 µF Molded Tubular 200 V., Tol. ±20%	085-002
C82	.01 µF Disc 300 V. GP	072-169
C83	100 µµF Disc GP, Tol. ±10%	071-013
C84	.001 µF Disc GP	072-108
C85	1.5 µµF Tubular NPO, Tol. ±.5 µµF	084-025
C86	100 µµF Tubular GP, Tol. ±10%	071-013
C87	.1 µF Molded Tubular 400 V., Tol. ±20%	085-005
C88	470 µµF Disc GP, Tol. ±20%	072-213
C89	25 µF Electrolytic 25 V.	073-127
C90	.01 µF Disc 500 V. GP	072-173
C91	470 µµF Disc GP, Tol. ±20%	072-213
C92	.001 µF Disc GP	072-108
C93	.001 µF Disc GP	072-108
C94	100 µµF Tubular GP, Tol. ±20%	072-213
C95	.01 µF Disc 300 V. GP	072-169
C96	.1 µF Molded Tubular 400 V., Tol. ±20%	085-005
C97	.001 µF Disc GP	072-108
C98	25 µF Electrolytic 25 V.	073-127
C99	.0022 µF Molded Tubular, 3 KV, Tol. ±20%	085-095
C100	Variable, BFO Pitch	074-115
C101	.01 µF Disc, 500 V., GP	072-173
C102	.001 ±20% Disc, Ceramic	072-108
C103	500 µµF DM15 ±5%	088-081
C104	82 µµF DM15 ±5%	088-002
C105	100 µµF N750 ±120 Tol. .100 µµF	084-271
C106	5 µµF NPO	084-117
C107	5 µµF NPO	084-117
C108	5 µµF NPO	084-117
C109	.001 µµF ±20% Disc, Ceramic	072-108
C110	.01 µF Disc @ 500 V. GP	072-173

RESISTORS

(All resistors 1/2 watt composition Tol.±10% unless otherwise specified)

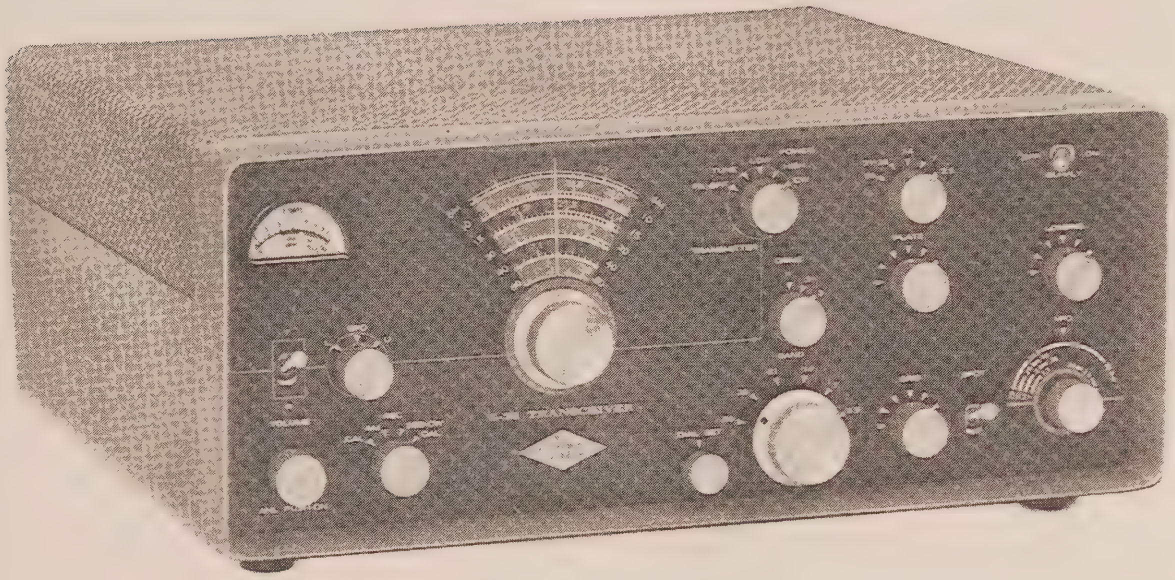
Schematic No.	Description	Gonset Part No.
R1	27 Ω	042-270
R2	33 KΩ	042-333
R3	3500 Ω 7 watt Wire wound, Tol.±20%	049-001
R4	10 KΩ 1 watt	043-103
R5	270 KΩ	042-274
R6	68 KΩ	042-683
R7	22 KΩ 1 watt	043-223
R8	4700 Ω 1 watt	043-472
R9	47 Ω	042-470
R10	15 KΩ	042-153
R11	1000 Ω	042-102
R12	27 KΩ 1 watt	043-273
R13	220 Ω 2 watt (part of L13)	044-221
R15	47 KΩ 2 watt	044-473
R16	22 Ω 1 watt, Tol. ±5%	047-220
R17	3.9 KΩ 1/2 watt, Tol. ±5%	046-392
R18	470 KΩ	042-474
R19	100 KΩ	042-104
R20	27 Ω	042-270
R21	10 KΩ	042-103
R22	22 KΩ	042-223
R23	33 KΩ	042-333
R24	7000 Ω 10 watt Wire wound, Tol. ±10%	049-083
R25	1000 Ω	042-102
R26	100 KΩ	042-104
R27	4.7 meg. Ω	042-475
R28	100 KΩ	042-104
R29	22 KΩ	042-223
R30	10 Ω	042-100
R31	4700 Ω	042-472
R32	270 Ω	042-271
R33	47 KΩ 1 watt	043-473
R34	10 KΩ	042-103
R35	270 Ω	042-271
R36	100 KΩ	042-104
R37	27 KΩ	042-273
R38A	10 KΩ R38B 1 meg.Ω Dual Potentiometer	052-101
R39	68 KΩ 2 watt	044-683
R40	47 KΩ 1 watt	043-473
R41	10 KΩ	042-103
R42	47 KΩ	042-473
R43	270 KΩ	042-274
R44	270 KΩ	042-274
R45	2700 Ω	042-272
R46	680 KΩ	042-684
R47	47 KΩ	042-473
R48	27 KΩ	042-273
R49	27 KΩ	042-273
R50	470 KΩ	042-474
R51	2700 Ω	042-272
R52	250 KΩ Potentiometer (Mike Gain)	052-102
R53	47 KΩ	042-473
R54	680 KΩ	042-684
R55	2.2 meg.Ω	042-225
R56	270 KΩ	042-274
R57	470 KΩ	042-474
R58	470 Ω 1 watt	043-471
R59	27 KΩ	042-273
R60	100 KΩ	042-104
R61	15 Ω 1/2 watt Wire wound, Tol. ±5%	058-150
R62	15 Ω 1/2 watt Wire wound, Tol. ±5%	058-150
R63	22 Ω 2 watt	044-220
R64	2700 Ω	042-272
R65	68 KΩ 2 watt	044-683
R66	20 KΩ Potentiometer (Meter Zero)	052-103
R67	10 KΩ	042-103
R68	10 Ω	042-100
R69	10 Ω	042-100
R70	220 K 1/2 watt ±10%	042-224
R71	100 ohm 1/2 watt ±10%	042-010
R72	100 K 1/2 watt ±10% Composition	042-104
R73	100 K 1/2 watt ±10% Composition	042-104
R74	100 K 1/2 watt ±10% Composition	042-104
R75	100 K 1/2 watt ±10% Composition	042-104
R76	220 K 1/2 watt ±10% Composition	042-224
R77	2.2 K 1/2 watt ±10% Composition	042-222
R78	22 KΩ 2 watt	044-223
R79	47 KΩ 2 watt	044-473
L1	VFO Coil, 1.75 Mc. - 2 Mc.	012-464
L2	VFO Coil, 7 Mc. - 7.425 Mc.	012-465
L3	Oscillator Plate Coil	012-449
L4	Oscillator Plate Coil	012-449
L5	Oscillator Plate Coil	012-450
L7	Final Grid Coil	012-452
L8	Final Grid Coil	012-453
L9	Final Grid Coil	012-454
L10	Final Grid Coil	012-454
L11	Final Grid Coil	012-455
L12	Final Grid Coil	012-472
L13	Parasitic Coil (wound on R13)	026-011
L14	H-F Final Plate Coil	012-471
L15	L-F Final Plate Coil	012-504
L16	Receiver Mixer Coil 80-M	012-452
L17	Receiver Mixer Coil 40-M	012-449
L18	Receiver Mixer Coil 20-M	012-456
L19	Receiver Mixer Coil 15-M	012-451
L20	Receiver Mixer Coil 10-M	012-451
L21	Receiver Mixer Coil 6-M	012-457
L22	Receiver Oscillator Coil 80-M	012-462
L23	Receiver Oscillator Coil 40-M	012-463
L24	Receiver Oscillator Coil 20-M	012-458
L25	Receiver Oscillator Coil 15-M	012-459
L26	Receiver Oscillator Coil 10-M	012-460
L27	Receiver Oscillator Coil 6-M	012-461
T1	I-F Transformer, 2065 Kc.	014-008
T2	Oscillator Coil, 2327 Kc.	014-059
T3	I-F Transformer, 262 Kc.	014-080
T4	I-F Transformer, 262 Kc.	014-080
T5	I-F Transformer, 262 Kc.	014-080
T6	BFO Transformer, 262 Kc.	014-058
T7	Audio Driver Transformer	273-013
T8	Modulation Transformer	273-014

GONSET

INSTRUCTION MANUAL
G-76 MULTI BAND TRANSCEIVER MODEL 3338
G-76 AC POWER SUPPLY MODEL 3349
G-76 DC POWER SUPPLY MODEL 3350

GONSET DIVISION / YOUNG SPRING & WIRE CORPORATION

INSTRUCTION MANUAL
G-76 MULTI BAND TRANSCEIVER MODEL 3338
G-76 AC POWER SUPPLY MODEL 3349
G-76 DC POWER SUPPLY MODEL 3350



GONSET DIVISION

Young Spring & Wire Corporation

801 South Main Street

Burbank, California

MADE IN U.S.A.

Warranty Policy

The Gonset Division warrants its equipment, when properly registered, against defects in workmanship, materials, and construction under normal use and service for a period of 90 days from the date of original purchase. Under this warranty our obligation is limited to repairing or replacing any defective parts.

This warranty does not apply to any equipment which has been tampered with in any way, or which has been misused or damaged by accident or negligence, or which has had the serial number removed, altered or effaced.

On equipment employing a vibrator, all components are covered by the warranty with the exception of the vibrator itself.

This warranty is valid only when the enclosed card is properly filled in and returned within ten days from purchase date.

The Gonset Division reserves the right to discontinue or change, at any time, specifications, design or prices without notice and without incurring obligations.

DO NOT SEND EQUIPMENT TO THE FACTORY WITHOUT FIRST SECURING AUTHORIZATION TO DO SO.

THIS WARRANTY DOES NOT INCLUDE TRANSPORTATION COSTS TO AND FROM THE FACTORY.

GONSET DIVISION
YOUNG SPRING AND WIRE CORPORATION
801 SOUTH MAIN STREET, BURBANK, CALIFORNIA

DANGER, HIGH VOLTAGE

The voltage employed in this unit are sufficient to cause fatel shock under some conditions. Do not attempt to work on the unit out of the cabinet unless you are qualified to the extent of knowing what precautions to observe with regard to avoiding electrical shock.

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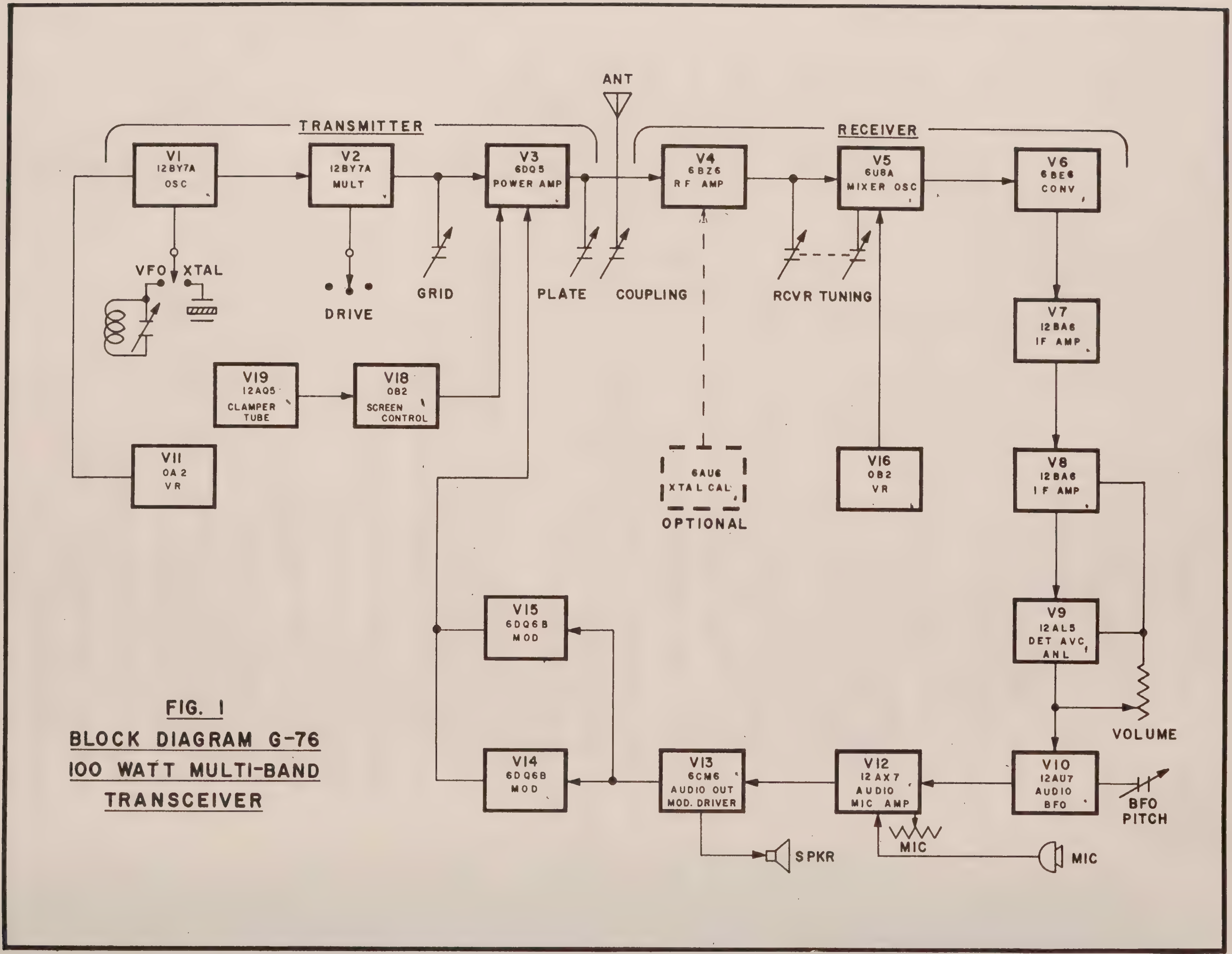


FIG. 1

BLOCK DIAGRAM G-76
100 WATT MULTI-BAND
TRANSCEIVER

505-254
A CHG.

RECEIVER SPECIFICATIONS

Frequency Ranges:
Band 1 -- 3.5 - 4.0 megacycles
Band 2 -- 7.0 - 7.3 megacycles
Band 3 -- 14.0 -14.35 megacycles
Band 4 -- 21.0 -21.45 megacycles
Band 5 -- 28.0 -29.7 megacycles
Band 6 -- 50.0 -54.0 megacycles

Sensitivity: Approximately 1 μV at 50 Ω for 6 db signal-plus-noise to noise ratio.

Selectivity: 3 Kc. bandwidth at 6 db down, nominal.
14 Kc. or less, at 60 db down.

Image Rejection:

Typical Figures:

Signal Input	Image
3.5 Mc.	70 db down
7 Mc.	57 db
14 Mc.	58 db
21 Mc.	53 db
28 Mc.	48 db
50 Mc.	30 db

Stability: Oscillators (both transmitter and receiver) are temperature compensated for negligible frequency drift. Oscillator circuit permits exceptionally wide excursions in power supply voltage, both plate supply and heater supply, with negligible frequency shift. As much as 30% decrease, or 50% increase, may be tolerated even in single sideband reception. This feature is, of course, most important in mobile service. Mechanical stability is excellent.

Antenna Input: 50 ohms unbalanced (coax cable).

Intermediate Frequencies: First I.F. . . . . 2065 Kc.

Second I.F. . . . . 262 Kc.

Audio Output: 2.5 Watts into 3.2 ohms.

Noise Limiter: Automatic type, switched in or out with front panel controls.

Accessories: 100 Kc. calibrator (Gonset Model 3269).
Microphone, High Impedance Ceramic Type (Gonset #3240)

TRANSMITTER SPECIFICATIONS

Frequency Range: 3.5, 7, 14, 21, 28 and 50 Mc. amateur bands.

V F O: Planetary vernier tuning, choice of crystal control when desired. VFO does not function on 50 Mc. band (8334-9000 Kc. crystal required for this band.) For other bands, crystal frequencies are as follows:

80M	1.75 or 3.5 Mc.
40M	1.75, 3.5 or 7 Mc.
20M	3.5 or 7 Mc.
15M	7-7.15 Mc.
10M	7-7.425 Mc.
6M	8.334-9 Mc.

Input Power: 6DQ5 Power Amplifier
100 Watts, amplitude modulated phone
120 Watts, CW.

Output Impedance: 50 ohms unbalanced (coax cable).

Power Requirements:	(Gonset G-76 A.C. Supply - Model 3349). (Gonset G-76 D.C. Supply - Model 3350). (1) 12.6 volts A.C. or D.C. at 4.67 amperes. This reduces to 2.17 amps. when the transmitter function switch is set on "FIL OFF", thus allowing for reception only with minimum battery drain. (NOTE: Transmitter oscillator tube is not turned off in this position.) (2) 225-275 volts D.C. at 90 MA. (3) 500-625 volts D.C. at 200 MA., resting current, 330 MA. on voice peaks. (250 MA. average drain on phone.
Dimensions:	12-5/8" wide, 5-1/8" high, 10-1/2" deep.
Shipping Weight:	21 pounds

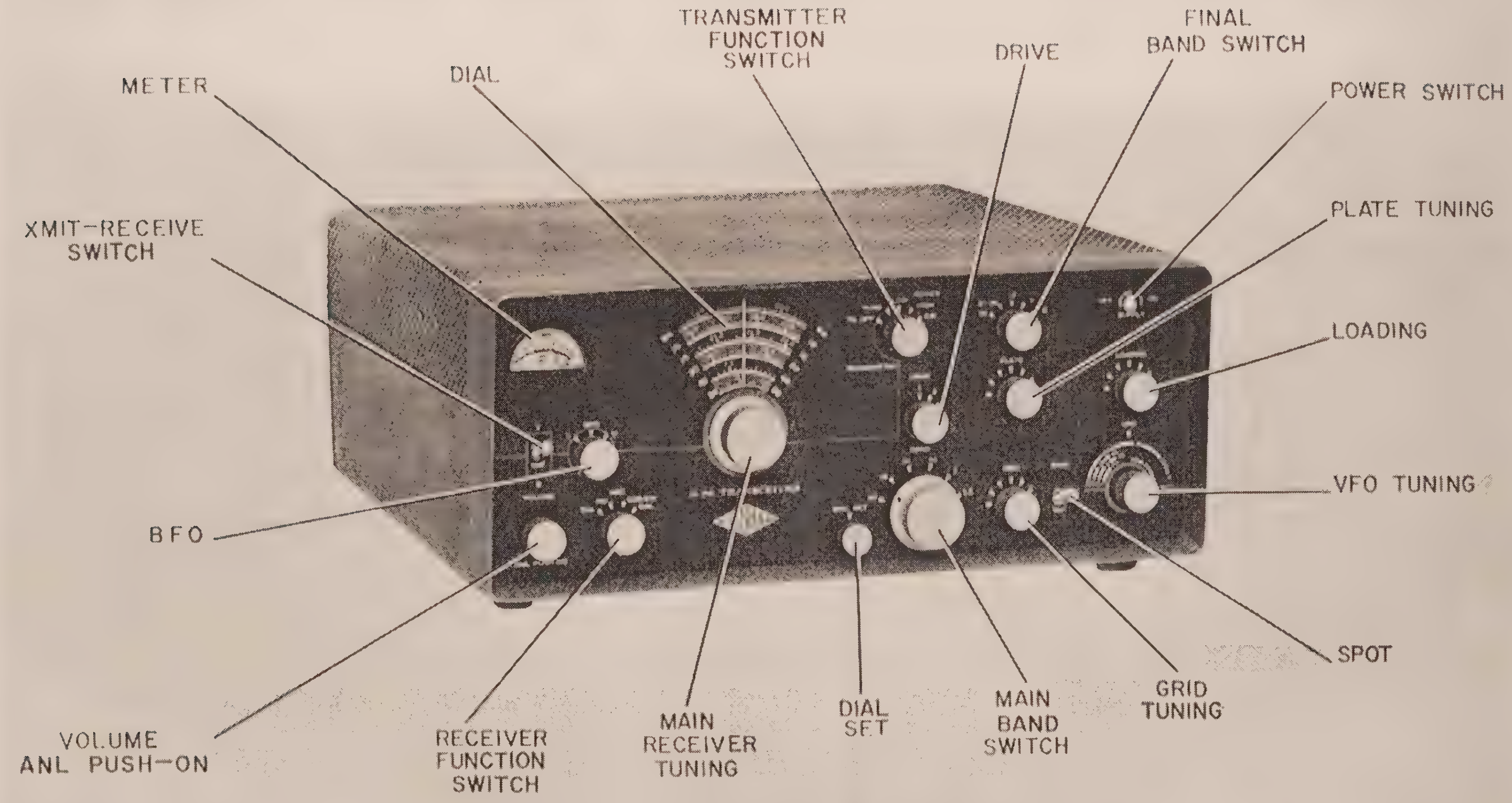


FIG. 2 FRONT PANEL CONTROLS

RECEIVER CONTROLS

Tuning Dial: 8:1 Planetary vernier. Dial scales printed on rotating disc.

Volume Control: Functions as an audio gain control in A.M. reception and R.F. gain, or sensitivity control, in SSB or CW reception. The push-pull switch on this control switches the automatic noise limiter on (in) and off (out).

Function Control:

Position 1	AM	Cal ON
Position 2	AM	Cal OFF
Position 3	SSB-CW	Cal OFF
Position 4	SSB-CW	Cal ON

NOTE: The 100 Kc. calibrator (Gonset Model 3269) is a plug-in accessory available as optional equipment. It can be switched on in both A.M. and SSB-CW positions.

BFO Pitch Control: Marked "L" and "U" to indicate approximately the positions for lower and upper sideband reception.

Dial Set: For minor correction of dial calibration.

Bandswitch: 6 Ranges: 3.5-4 Mc., 7-7.3 Mc., 14-14.35 Mc., 21-21.75 Mc., 28-29.7 Mc., and 50-54 Mc.

NOTE: This control also switches bands in the transmitter.

Bandswitch #2: This control selects the frequency range of the pi matching system, which functions as receiver input circuit, and transmitter output circuit. It has 5 ranges, marked "3.5, 7, 14, 21-28, 50". Note that the 21 and 28 Mc. bands are included in the same position.

TRANSMITTER CONTROLS

Function Control:	
Position 1	FIL.OFF reduces heater drain when receiving only.
Position 2	Tune. Voltage applied only to oscillator. Mult. meter registers grid MA. to final amplifier.
Position 3	Low Power. Plate and loading should be adjusted inthis position to load to 2 or 3 on meter scale. Approximately 20 watts input to final A°M° phone.
Position 4	High power. Full HV applied to final and modulator. Approximately 100 watts A.M.
Position 5	CW. Voltage removed from modulator and modulation transformer shorted out. Approximately 120 watts input. NOTE: Meter reads total cathode current to final amplifier in Positions 4 and 5.
V F O:	Driven by a planetary drive on 3.5, 7, 14, 21 and 28 Mc. ranges. Not operative in the 50 Mc. band. Two sockets are provided for 6- meter crystals or external VFO.
Spot:	Toggle switch turns VFO on for monitoring frequency in receiver. Also functions with crystals when they are used.
Grid:	With function switch in "tune" position, this control is adjusted for maximum grid current, as indicated by the tuning meter.
Drive:	3 positions, marked "1-2-3", indicating low, medium and high respectively. After tuning "grid" for maximum grid current, the drive control is set to the position which falls within the grid current range on the meter scale.
Plate:	Tunes final plate circuit. With the function switch in low or high power, or CW position, tune plate control for dip in meter indication.
Loading:	Output capacitor of pi matching system. Adjust for increase in TUNE position for meter reading of 2 or 3 on the meter scale. adjust for final cathode current of 150 MA max, "plate" tuned for dip, function switch in high power position.
Main Supply Switch:	Heavy-duty toggle turns supply on or off.

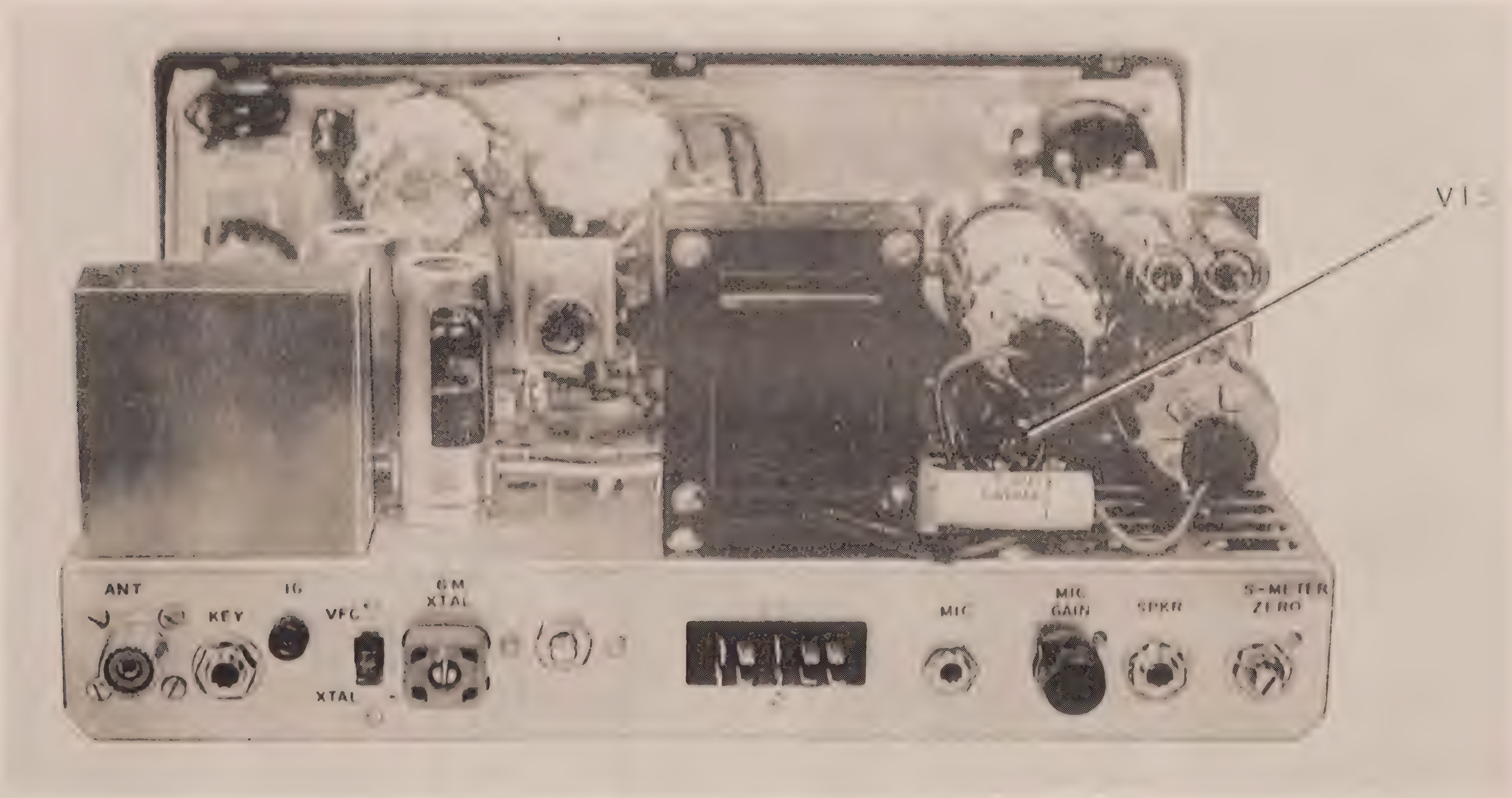


FIG. 3 REAR VIEW

REAR CONTROLS

CW Key Jack:	Driver Cathode Keying
Test Jack:	Final amplifier grid current. For metering grid current when final is operating. (Grid current is metered with panel meter when function switch is in "tune" position, but not when final is actually operating.)
VFO/Crystal Switch:	For switching from VFO to crystal operation.
Crystal Socket:	Dual type for low frequency bands and 6-meter band. (VFO does not operate in 6-meter, 50 Mc. band.) NOTE: Two crystals may be inserted in this dual socket for 6 meters, and selection between them made with the VFO crystal switch.
Power Connector Plug	
Microphone Jack	
Microphone Gain Control	
Speaker Jack	
S Meter Zero Adjust	
Antenna Connector Jack	UHF, coax type SO-239.

INSTALLATION

After unpacking the Gonset G-76 Transceiver, check to make sure all tubes are in place. Check all controls for normal movement. Turn main power switch to OFF position.

For fixed-station operation, connect the Gonset G-76 A.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting A.C. cord to power line.

For mobile operation, connect the Gonset G-76 D.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting positive and negative terminals of power supply to 13.4 volt D.C. source.

(3) Connecting 3.2 ohm speaker to speaker jack at back of chassis.

High voltage to final amplifier and modulator does not appear anywhere in the transceiver proper until the T/R relays close. A relay built into the A.C. power supply, and the D.C. power supply, disconnects the H.V. lead from the supply and grounds it. Thus, when in receive position, the highest voltage present in the transceiver is the nominal 275 volts D.C. from the medium voltage supply. The protective H.V. relay in the power supply is energized when the T/R relays in the transceiver close.

The T/R relay will not operate when the transmitter function switch is in the "FIL OFF" position. In this position, heater current to the modulators and final amplifier is disconnected, conserving battery power when receiving only, and also preventing accidental tripping of the T/R button of the microphone.

The T/R relays will not operate when the VFO "SPOT" switch is on. The transmitter will not operate in the "SPOT" position due to lack of excitation, and final amplifier tube failure could occur before it is realized that the VFO switch was unintentionally left on the "SPOT" position. With the built-in safety feature, the T/R relays will not function until the VFO switch is down in the operate position.

The A.C. power supply includes a high voltage slo-blo fuse to protect it from high voltage short circuits, as well as a fused line plug.

RECEIVER OPERATION

Amplitude Modulated Signals:

(A) Supply Switch..................On.

(B) T/R Switch.....................Receive position.

(C) Function Control..............Position 2.

(D) ANL...........................OFF or ON, as required.

(E) Bandswitch #1.................Set to desired range.

(F) Bandswitch #2.................Set to desired range.

(G) Tuning Dial...................Adjust for maximum "S" meter reading on desired signal.

(H) Plate and Loading Adjustment...........When using the G-76 for receiving only, the Pi network should be adjusted for maximum "S" meter reading on a signal. IMPORTANT: See Note (4) Operating Notes.

(I) Volume Control................Set to desired volume level.

Single Sideband Signals:

(A) Supply Switch..................On.

(B) T/R Switch.....................Receive position.

(C) Function Control..............Position 3.

(D) Bandswitch #1.................Set to desired range

(E) Bandswitch #2.................Set to desired range.

(F) BFO Frequency.................Set to "U" for upper sideband, or "L" for lower sideband.

(G) Tuning Dial...................Adjust for most natural voice quality.

(H) Volume Control................Set to desired volume level.

CW Code Signals:

(A) Supply Switch..................On.

(B) T/R Switch.....................Receive position.

(C) Function Control..............Position 3.

(D) Bandswitch #1.................Set to desired range.

(E) Bandswitch #2.................Set to desired range.

(F)	BFO Frequency	Set to either "U" or "L" mark.
(G)	Tuning Control............	Adjust for maximum loudness of desired CW signal. Then go back to the BFO control and set it for desired pitch. This adjustment need only be made when it is found desirable to change pitch.
(H)	Volume Control............	Set to desired volume level.

OPERATING NOTES:

(1) To check tuning dial calibration accuracy, switch the calibrator on (receiver function control, Positions 1 or 4), and locate the nearest 100 Kc. marker signal on the dial. Ordinarily the dial set control will set very close to 12 o'clock (straight up) when the tuning dial is reading correctly. With long-term aging effects, humidity, etc., dial accuracy may gradually shift, requiring compensation with the dial set control to varying degrees on each band. Eventually, the oscillator adjustments should be reset to restore original dial accuracy (See alignment procedure). These effects are generally spread over many months of operation. Note that the 100 Kc. calibrator (Gonset Model 3269) is an optional plug-in accessory and must be purchased as an extra.

(2) If it is not known which sideband a station is transmitting, it may be necessary to first try one side, and then the other. It will be found that when the BFO is set to the wrong side, the signal cannot be tuned to an understandable point. In such a case, move the BFO control to the other side, and adjust the tuning dial again until a natural voice is heard.

(3) Pi input circuit (plate tuning and loading) may be adjusted for maximum sensitivity. However, these adjustments are mose effectively made while adjusting the transmitter.

(4) Whenever the Pi controls have been adjusted for transmitting on a particular band, DO NOT READJUST WHEN RECEIVING. These controls are fairly broad for receiving, and each amateur band may be tuned over the entire range without readjustment. For transmitting these controls are quite sharp and critical. Thus, once they are adjusted for transmit, they should be left along while receiving.

TRANSMITTER OPERATION

CAUTION: The following steps must be followed in sequence to prevent damage to the final amplifier.

Amplitude Modulated Signals:

(A) Power Switch.............On.

(B) Tune receiver to desired frequency.

(C) Spot Switch..............Spot position and adjust VFO for maximum meter indication.

(D) Spot Switch..............Off.

(E) Loading Control..........Minimum or CCW.

(F) Transmitter Function Switch..."Tune" Position.

(G) Drive Control..............Position 1 on 80, 40 & 20 meters.
Position 2 or 3 on 10, 15 & 6 meters.

(H) T/R Switch.................Transmit position.

(I) Grid Tuning................Maximum meter indication.

(J) Drive Control..............Set to position corresponding to IG range on meter scale. (NOTE: Minimum of 1/2 to 2 miles as measured at IG meter jack on rear of unit).

(K) Transmitter Function Switch...Low Power

(L) Plate Tuning...............Quickly adjust for sharp dip in meter reading.

(M) Plate Loading..............Increase gradually while adjusting plate control for meter dip until meter reads between 2 and 3.

(N) T/R Switch.................Off

(O) T/R Function Switch........High Power

(P) T/R Switch.................ON

(Q) Loading Control............Increase gradually while adjusting plate control for meter dip, until meter reads 150 MA max.

Caution

Do not change function switch from low to high or high to low power with T/R switch in "ON" position.

CW Signals:

(A) Follow above steps for amplitude modulated signals.

(B) Transmitter Function Switch.....CW position.

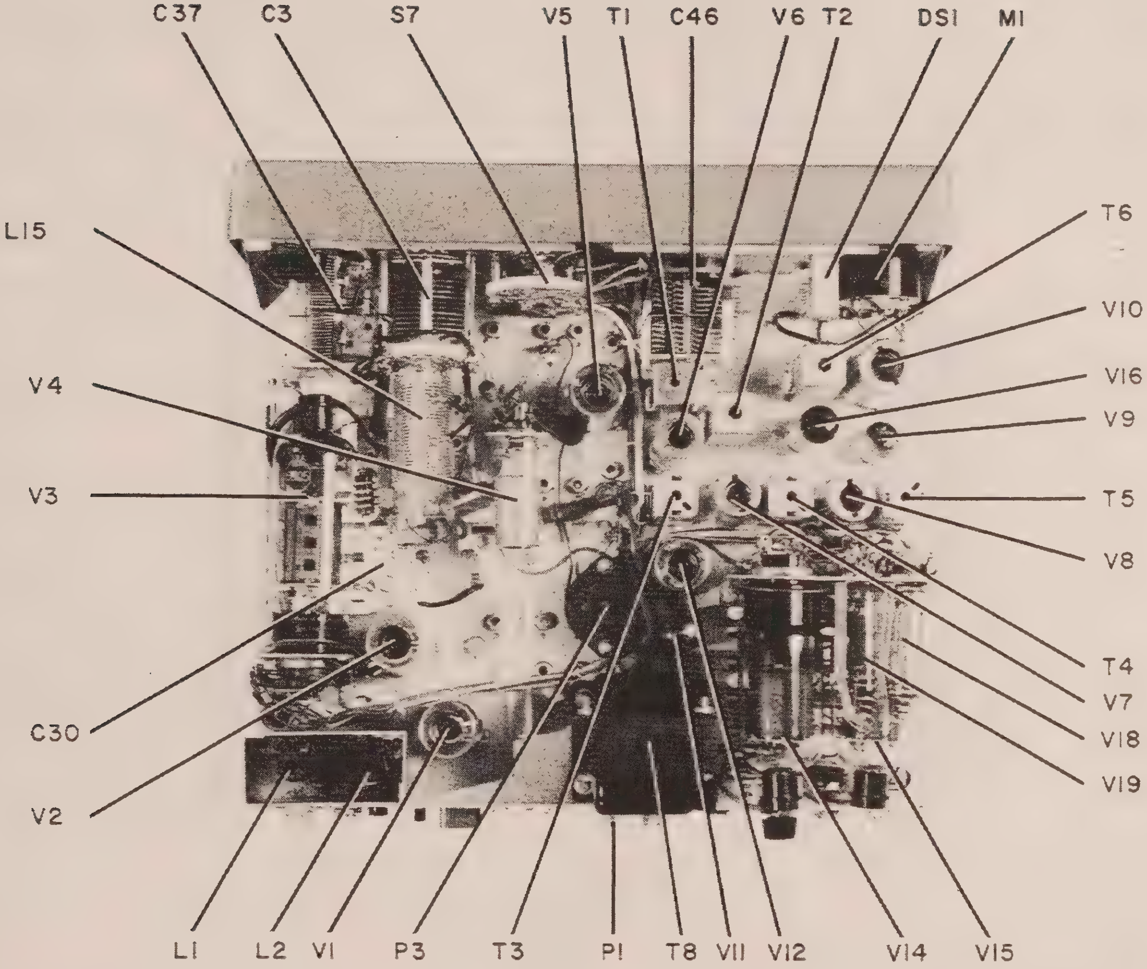


FIG. 4 CHASSIS, TOP VIEW

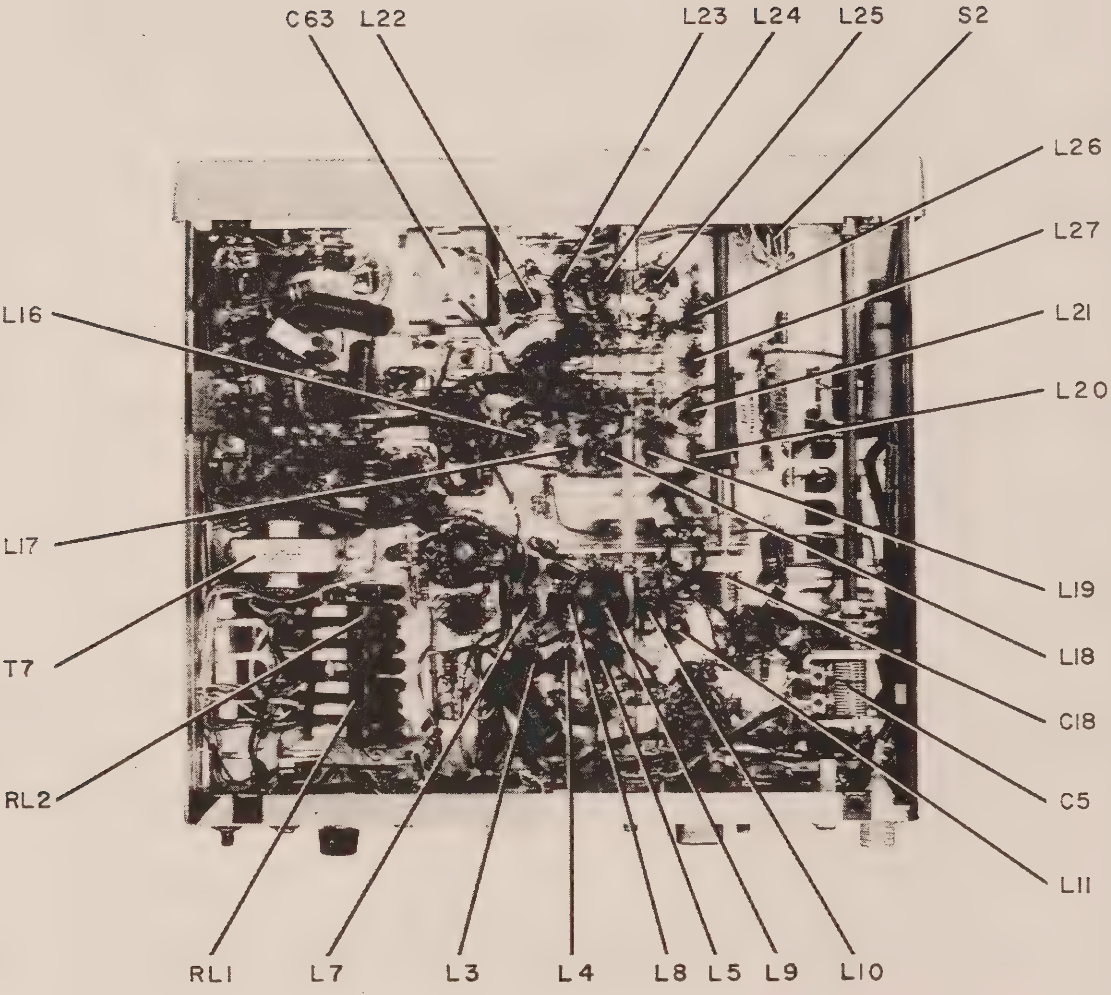


FIG. 5 CHASSIS, BOTTOM VIEW

RECEIVER ALIGNMENT

(Trans. Function Switch at "FIL.OFF")

Step #1

262 Kc. I.F. (1) Connect Signal Generator to Pin 7 of 6BE6 (V6). Use blocking capacitor to protect generator. Approximately .01 mfd. Peak I.F. transformers, T3, T4 and T5 top and bottom, for maximum AVC. Receiver function switch in "AM" position.

(2) After peaking T3, T4 and T5, switch receiver function to "CW-SSB". Set BFO control to 12 o'clock. Adjust T6 (top adjust.only) for zero beat with signal generator. (Generator still set to 262 Kc.)

Step #2

2065 Kc. I.F. Receiver Function set to "AM".

(1) Connect Signal Generator to Pin 2 of 6U8A (V5). Set generator frequency to exactly 2065 Kc. Adjust 2327 Kc. Oscillator (T2) until signal appears.

(2) With Signal Generator set to 2065 Kc., adjust transformer, T1, Top and Bottom, for peak AVC.

Step #3

50 Mc. band alignment...Connect Signal Generator to antenna connector on rear of chassis. Bandswitches both set to "50 Mc." position. Receiver function selector set to "AM" position. Dial set control at 12 o'clock. Set receiver tuning dial to 50 Mc. position. Set signal generator to exactly 50 Mc. (Or, preferably, use a crystal-controlled signal at 50 Mc., or some sub-multiple of 50 Mc.)

(1) Adjust receiver oscillator coil, L27, until signal tunes in at 50 Mc. point on tuning dial.

(2) Set signal generator to exactly 54 Mc. and check high frequency end of tuning dial. Signal should appear at 54 Mc. mark. If it does not, adjust trimmer, C63, until it does.

(3) Go back and check 50 Mc. By adjusting coil, L27, at 50 Mc., and trimmer, C63, at 54 Mc., repeat until 50 and 54 Mc. appear at their respective markings on the dial.

(4) Adjust coil, L21, for maximum AVC voltage.

(5) Recheck 50 and 54 Mc. points for possible interaction from L21 adjustment.

(6) Pi input circuit (plate tuning and loading) may be peaked for maximum AVC, although this is not essential unless sensitivity measurements are being conducted.

Step #4

Alignment, HF bands...After the 50 Mc. VHF band has been properly aligned, as per Step 3, the other bands may be aligned. Following the accompanying chart, adjust the oscillator and mixer coils at the given frequencies.

Band	Sign. Gen. Freq.	Oscillator Coil	Mixer Coil
28 Mc.	28.7	L26	L20
21	21.3	L25	L19
14	14.2	L24	L18
7	7.2	L23	L17
3.5	3.8	L22	L16

Adjust the oscillator coils until the generator signal appears at the correct dial position. Then adjust the mixer coil for maximum signal. Finally, recheck the oscillator setting for possible interaction from mixer tuning.

Note that the 5 HF bands have only one oscillator adjustment. Trimmer C63 is to be used only for tracking the 50-54 Mc. band, after which the HF bands should track closely. If any of the HF bands do not track closely, it means that capacity tolerances are off, and a capacitor change may be necessary.

The Pi input circuit need not be tuned for peak signal when adjusting the oscillator or mixer. For sensitivity measurements, however, the Pi network should be set to the proper band, and adjusted for maximum signal.

Sensitivity of the G-76 receiver section will measure approximately 6 db signal-plus-noise to noise ratio with an input of 1 microvolt at 50 ohms.

Image Rejection, typical figures:

60 db at 3.5 Mc.
60 db at 7 Mc.
50 db at 14 Mc.
45 db at 21 Mc.
40 db at 28 Mc.
30 db at 50 Mc

The primary image will occur at a frequency 4.13 Mc. higher than the desired signal, except in the 50-54 Mc. band, where the image will occur 4.13 Mc. below the signal.

Selectivity: 3 Kc. at 6 db down, nominal. Less than 14 Kc. wide at 60 db down.

TRANSMITTER ALIGNMENT

Step #1 - VFO Adjustment

(1) Set bandswitches to 7 Mc. and receiver function switch to A.M. Set receiver tuning dial to 7 Mc. Set VFO crystal switch on rear of chassis to VFO position. Throw VFO spot switch up to "SPOT" position. Set VFO control to 7 Mc. and adjust L1, top of rear - right shield can, until a strong signal is received. This adjustment sets the VFO frequency for the 3.5-4 and 7-7.3 Mc. bands.

(2) Set bandswitches to 14 Mc., receiver function to A.M., and receiver tuning dial to 14 Mc. Set VFO control dial to 14 Mc. and throw switch to "SPOT" position. Adjust L2, top of shield can next to L1, until a signal is received. This adjustment sets the VFO for the 14-14.35, 21-21.45 and 28-29.7 Mc. bands.

NOTE: The 50 Mc. band does not use the VFO, but requires a crystal of 8.334 to 9 Mc. frequency inserted in the upper crystal position at the back of the chassis. Crystals may be used on the lower HF bands by inserting them in the lower crystal position, and switching the rear slide switch down to the "Xtal" position.

Step #2 - Oscillator Plate and Multiplier Adjustment

(1) 80 Meters...set transmitter function switch to "TUNE" position, "SPOT" switch down, bandswitches at 3.5 Mc. position, and VFO dial at 7 Mc. Set "DRIVE" control at Position #1. Throw T/R toggle switch up to the transmit position. In the tune position, only the 12BY7's in the oscillator and multiplier stages are functioning, so there is no concern for the final amp. or modulator at this time. Adjust the "Grid" tuning for maximum meter indication. At 4 Mc. the grid tuning capacitor should be nearly open. The adjustable core of L7 should be left at a position where both 3.5 and 4 Mc. can be peaked with the grid tuning dial.

(2) 40 Meters...set bandswitches to 7 Mc. position, and VFO dial to 7 Mc. with T/R switch in "T" position, adjust "Grid" tuning for maximum meter reading. This should occur with the grid tuning capacitor about 80% meshed. Adjust Coil L8 for this condition. Now, set the VFO to approximately 7.2 Mc. and adjust Coil L3 for maximum meter reading. L3 is the oscillator plate coil.

(3) 20 Meters...set bandswitches to 14 Mc. and VFO dial to 14 Mc. With the T/R switch up in the "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 80% meshed. Coil L9, associated with this band, is not adjustable. This test merely serves as a check on L9 and its associated capacitor C21.

(4) 15 Meters...set bandswitches to 21 Mc. and VFO dial to 21.25 Mc. With the T/R switch in "T" position, adjust grid tuning for maximum meter reading. This should occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L4, the oscillator plate coil for maximum meter reading.

(5) 10 Meters...set bandswitches to 28 Mc. and VFO to 29 Mc. With T/R switch in "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L5, the oscillator plate coil, for maximum meter reading.

(6) 6 Meters...set bandswitches to 50 Mc. Insert a 6-meter crystal in upper crystal socket. Its frequency must be between 8334 and 9000 Kc., preferably somewhere in the lower part of this range. Switch to "T" position and adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed.

Step #3 - Final Power Amp. Adjustment

(1) Connect dummy load, 52 ohm impedance to antenna jack.

(2) Set neutralizing capacitor tentatively to about 25% mesh.

(3) Set bandswitches to 3.5 Mc., VFO dial to 3.8 Mc., tune grid circuit, as per preceding instructions. After peaking grid current (meter reading) with the grid tuning dial, set the drive control to position which provides a meter reading nearest to the "1G" range on the meter scale. On 80 meters, this will most likely be with drive in Position 1.

(4) Turn the loading control to minimum, CCW position. Now set the transmitter function switch to low power, and T/R switch to "T" position. Quickly adjust plate tuning for a sharp dip in meter reading (1P). Now switch to high power position. CAUTION: Dangerous voltages are present in the circuitry at this time. Keep hands out!

The output power indicator (watt meter) should now be indicating about 30 watts of power. Gradually increase the loading control, at the same time carefully tuning the plate control for meter dip, until the meter reads 150 to 160 MA. This is the operating range for A.M. phone in the high power position. Power input to the 6DQ5 is now approximately 100 watts.

(5) Repeat the above procedure on each of the other bands. Always keep the plate tuning adjusted for the dip in meter reading, particularly in the high power position, as the 6DQ5 can be seriously overloaded if this is not done.

(6) Neutralization. This adjustment must be a compromise, since it changes slightly between bands. Tentatively, make neutralizing checks on 15 meters first. Adjust the trimmer C30 until the meter reading does not increase sharply under modulation. Preferably, it should not increase at all. Grid tuning will have some reaction on this adjustment.

(7) 6-meter neutralization employs a feedback link which must also be adjusted for minimum increase of meter reading. This link is not a critical adjustment, but polarity must be correct. The twisted line which connects the links is color coded. If connected the wrong way, the amplifier will, of course, be extremely unstable on 6 meters.

(8) Modulation. Set the Mic. Gain to about its mid-point and insert a high impedance mike (Gonset 3240) in the jack. The swing in modulator plate current will not show on the front panel meter. The percentage of modulation should be checked by some external means.

(9) A test jack on the chassis rear may be used for metering grid current when final amp. is operating. Nominal grid current is 2 MA.

TRANSMITTER VOLTAGE CHART

14 Mc. Band - VFO Control

Tube	Pin Numbers								
	1	2	3	4	5	6	7	8	9
(Spot Switch UP)									
V1 12BY7A	0	-7	0	0	12.6AC	6.3AC	+110	+105	0
V2 12BY7A	0	-10	0	0	12.6AC	6.3AC	+12	+.5	0
(Tune Position - 6DQ5 and 6DQ6's not operating)									
V1 12BY7A	0	-11	0	0	12.6AC	6.3AC	+260	+150	0
V2 12BY7A	0	-15	0	0	12.6AC	6.3AC	+260	+100 Lo +140 M +210 Hi	0
V3 6DQ5	-50	0	0	-7	-50	0	6.3AC	-7	Cap -7
(Lo Power Position - 6DQ5 and 6DQ6's operating at med. voltage)									
V3 6DQ5	-43	0	+1	+55	-43	+1	6.3AC	+55	Cap Do not meas.
V12 12AX7	+100	0	+1	0	12.6AC	+84	-7	0	6.3AC
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +225
(Hi Power Position - 6DQ5 and 6DQ6's operating at high voltage)									
V3 6DQ5	-45	0	+4	+115	-45	+4	6.3AC	+115	Cap Do not meas.
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +625 (Caution)

RECEIVER VOLTAGE CHART

Tube	Pin Numbers								
	1	2	3	4	5	6	7	8	9
V4 6BZ6	-2.5	0	6.3*	0	+250	+140	0	---	---
V5 6U8A	+35	-2	+35	6.3*	0	+275	0	0	-2
V6 6BE6	-7	0	12.6*	6.3*	+265	+100	-2	---	---
V7 12BA6	-2.5	0	0	12.6*	-215	+85	+1.2	---	---
V8 12BA6	0	0	12.6*	0	+245	+70	+1.7	---	---
V9 12AL5	0	-1.6	0	9*	-.5	0	-2.7	---	---
V10 12AU7	+240	0	+85	0	12.6*	+40	0	+2	6.3*
V11 OB2	+105	0	0	0	+105	0	0	---	---
V12 12AX7	-.7	-.7	0	0	12.6*	+90	-.7	0	6.3*
V13 6CM6	+275	+17	0	12.6*	6.3*	0	+17	0	+265

Bandswitch at 14 Mc.
Receiver Function Switch at "AM CAL."
Transmitter Function Switch at "FIL OFF"
Antenna Disconnected.
*A.C. volts

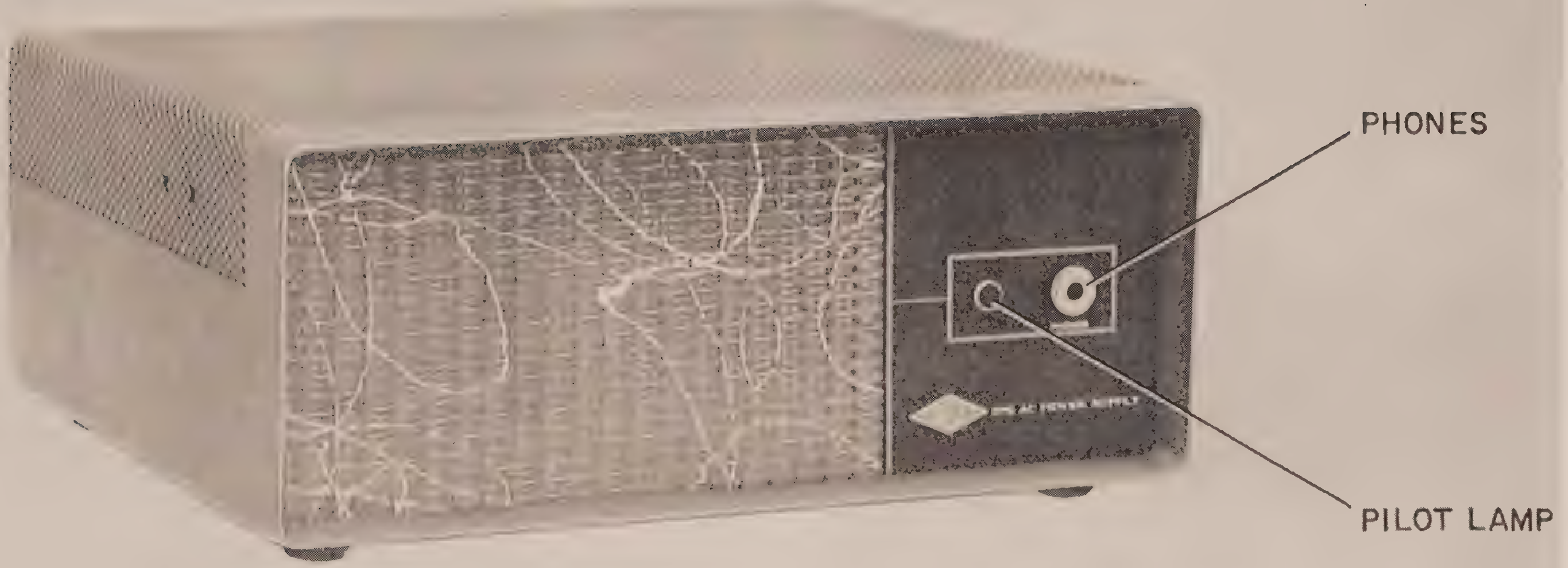


FIG. 6, A.C. POWER SUPPLY

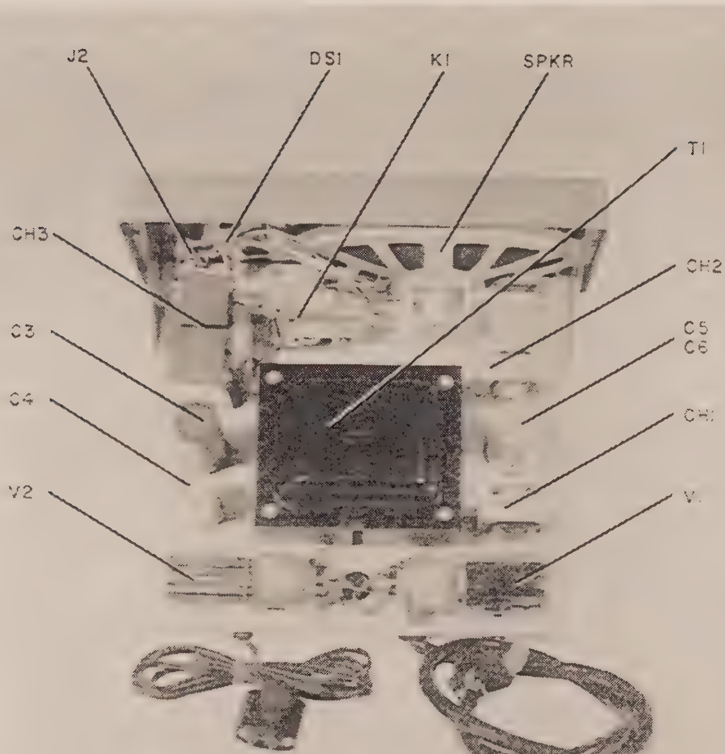


FIG 7 A C POWER SUPPLY, TOP VIEW

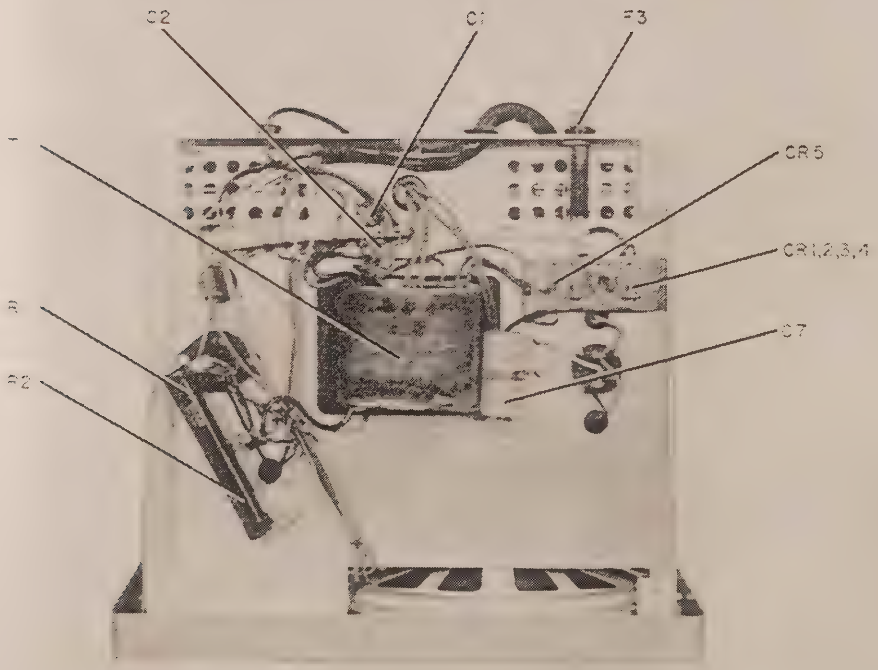
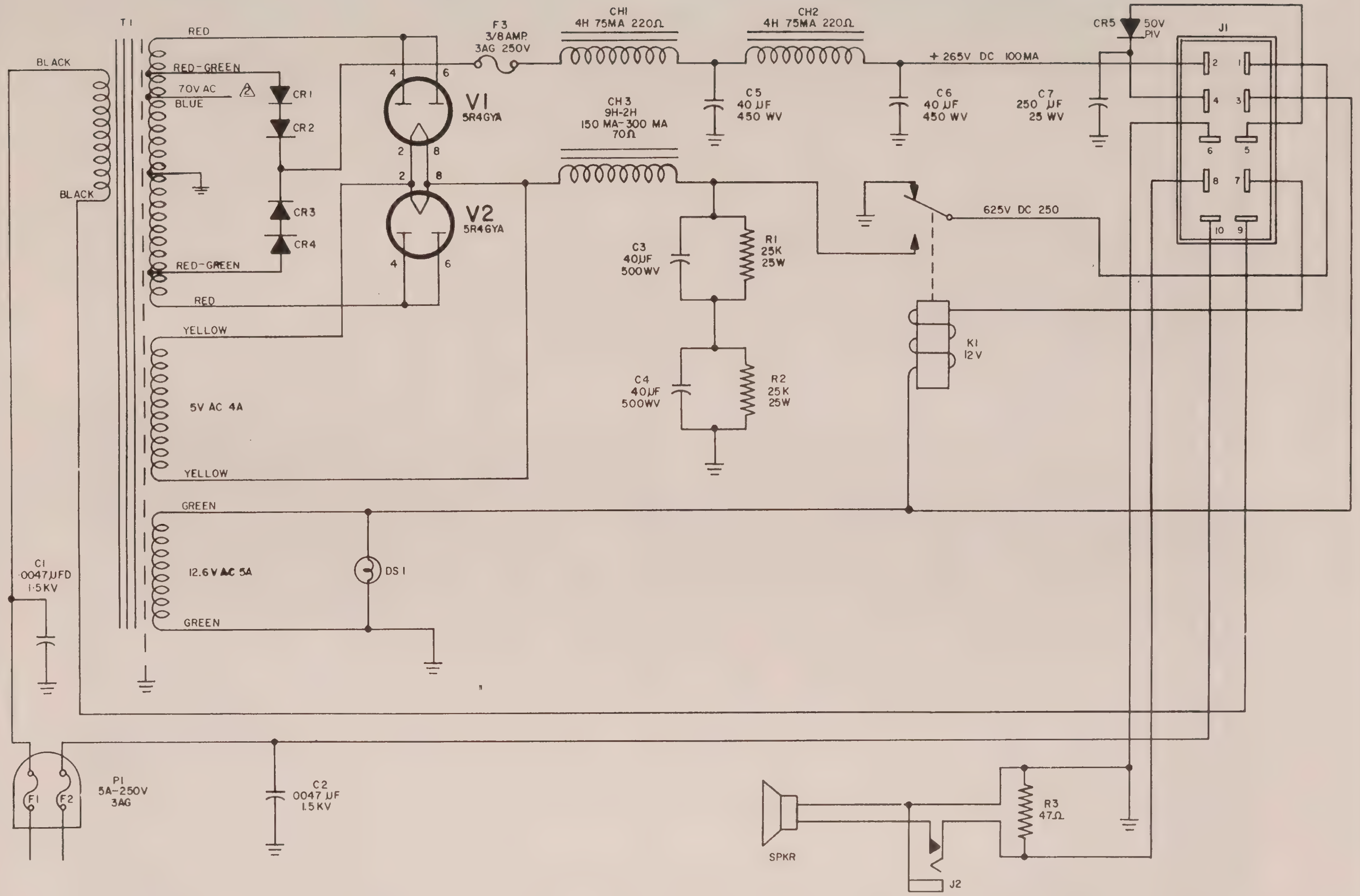


FIG 8 A C POWER SUPPLY, BOTTOM VIEW



6. RIPPLE ON 265VDC LINE, .05 VRMS
5. % OF REGULATION ON 265VDC LINE, 10% (90MA-120MA)
4. RIPPLE ON 625 VDC, 5.0VRMS
3. % OF REGULATION ON 625 VDC LINE, 10% (50MA-250MA)
⚠2 70V AC NOT USED THIS CIRCUIT
1. J1 VIEWED FROM WIRING SIDE
NOTE:

G-76 AC POWER SUPPLY

510-086 6-28-60

LETT	CHANGE	APP	DATE
A	CHANGED LOCATION OF F3	[illegible]	11-10-6

G-76 AC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 117 VAC at 3 amps. Receive - 117 VAC at 1.5 amps.
High Voltage Output:	600 VDC at 250 MA. Regulations 10%, Ripple 5.0 VRMS
	265 VDC at 120 MA. Regulation 10%, Ripple .05 VRMS
Filament Output:	12.6 VAC @ 5 amps.
Dimensions:	12-5/8" wide, 5-1/8" high, 10-1/2" deep.
Fuses:	2-5 amp. 250 V. 3 AG 1-3/4 amp. 250 V. 3 AG

G-76 DC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 13.4 VDC at 22.5 amps. Receive - 13.4 VDC at 10 amps.
High Voltage Output:	600 VDC at 300 MA. Regulation 10%, Ripple 2.5 VRMS
	250 VDC at 130 MA. Regulation 10%, Ripple .8 VRMS.
Filament Output:	D.C. input carried through.
Dimensions:	8.18" wide, 3-1/2" high, 6-1/2" deep.
Fuses:	2-30 amp. suggested.

SHIPPING WEIGHT

D.C. Power Supply:	10 pounds
A.C. Power Supply:	32 pounds

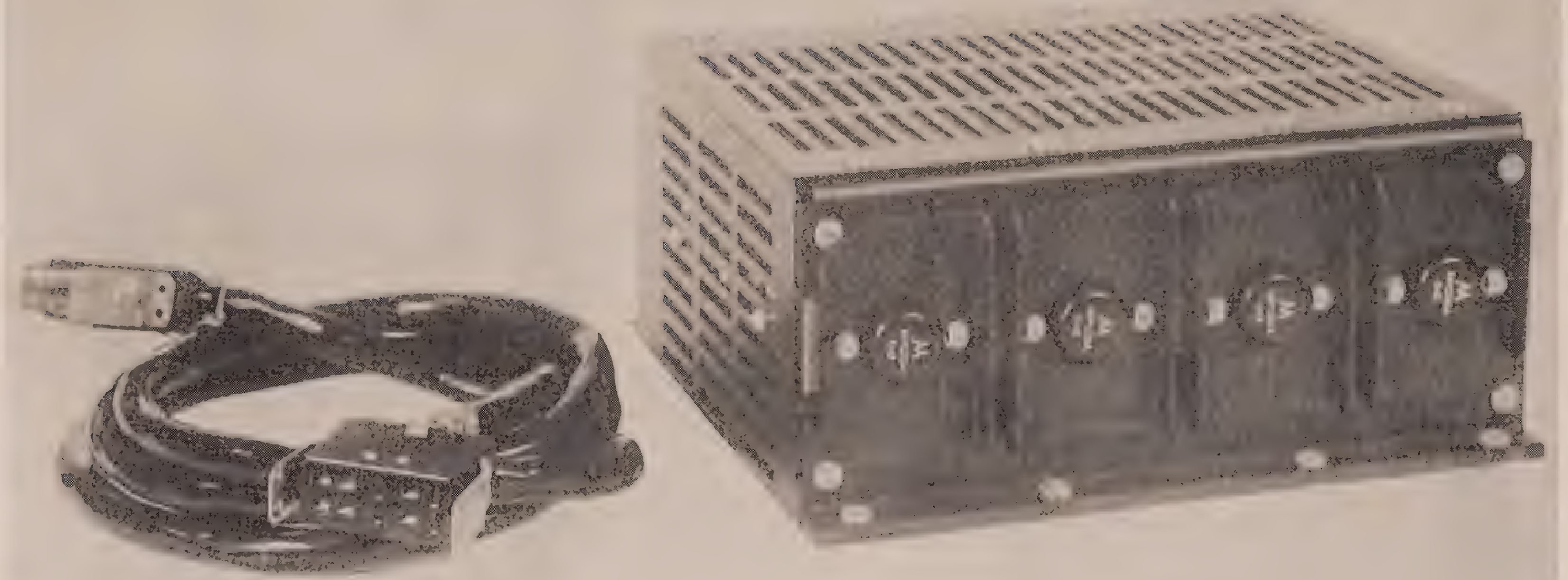


FIG. 9 D. C. POWER SUPPLY

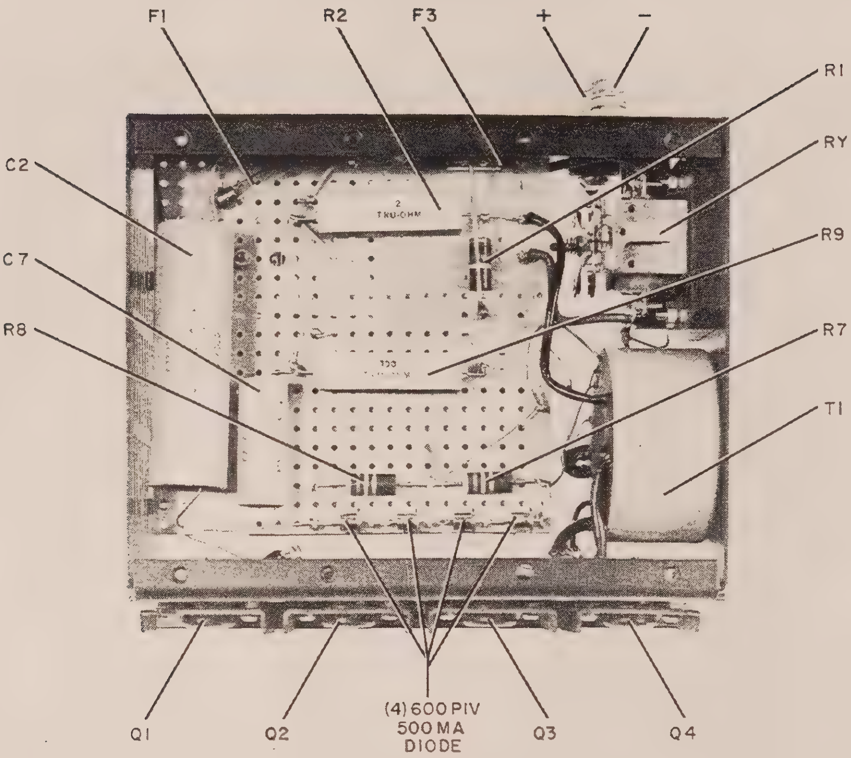


FIG. 10 D.C. POWER SUPPLY, TOP VIEW

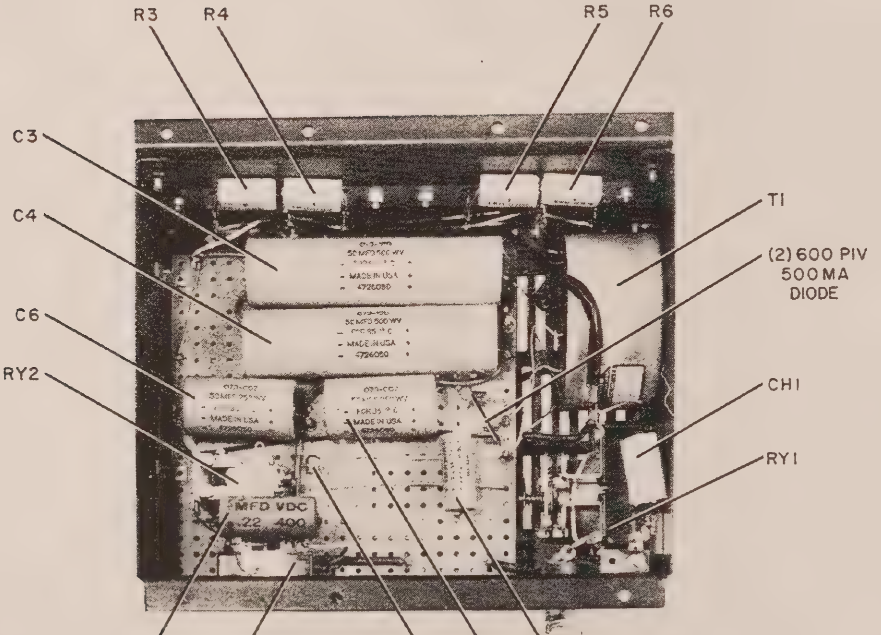
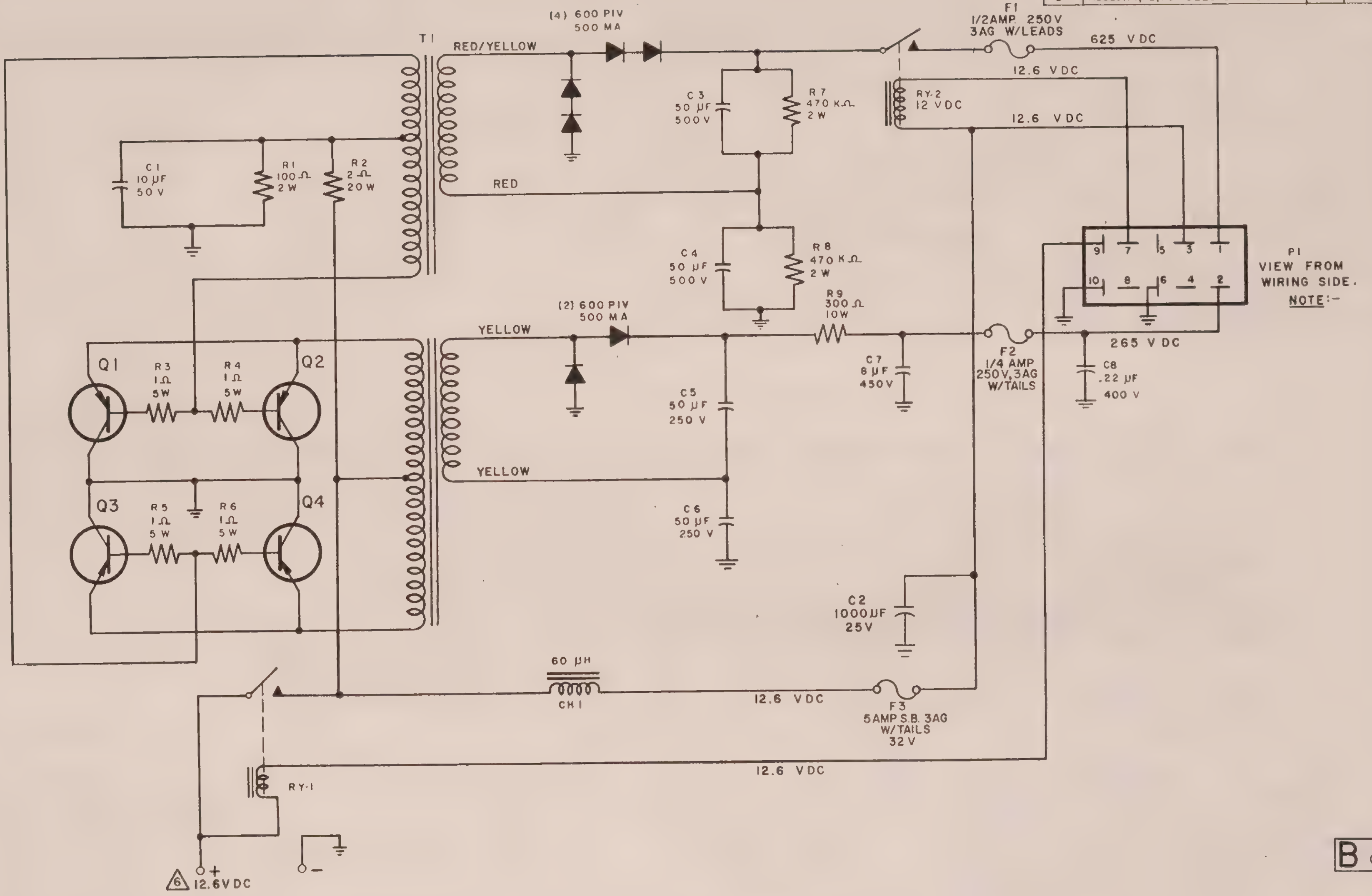


FIG. 11 D.C. POWER SUPPLY, BOTTOM VIEW

LET	REVISION	APP.	DATE
A	ADDED: C8.		
B	ADDED: F1, F2, F3 – DELETE GREEN TAP		11-10-60



B CHG

G-76 D.C. POWER SUPPLY

6. USE 13.4 VDC FOR TEST PURPOSES

4. RIPPLE ON 265VDC LINE .8VRMS
3. % OF REGULATION ON 265VDC LINE, 10% (130MA–95MA)
2. RIPPLE ON 650VDC LINE 2.5VRMS
1. % OF REGULATION ON 650 VDC LINE, 10% (300MA–50MA)

NOTES:

510-085 6-21-60

MISCELLANEOUS COMPONENTS

Schematic No.	Description	Gonset Part No.
RFC 1	R-F Choke, 200 μH	027-017
RFC 2	R-F Choke, 200 μH	027-017
RFC 3	R-F Choke, 50 μH	027-018
RFC 4	R-F Choke, 200 μH	027-017
RFC 5	R-F Choke, 80 μH	027-081
RFC 6	R-F Choke, 200 μH	027-017
RFC 7	R-F Choke, 2.2 μH	027-053
S1	Band Switch Shaft Assembly only	171-110
S1A	Receiver Osc. Plate Wafer	171-111
S1B	Receiver Osc. Grid Wafer	171-112
S1C	Receiver Mixer Grid Wafer	171-112
S1D	Receiver R-F Plate Wafer	171-111
S1E	Transmitter Final Grid Wafer	171-113
S1F	Transmitter Osc Plate Wafer	171-113
S1G	VFO H-F Section	171-114
S1H	VFO L-F Section	171-114
S2	VFO-Crystal Switch DPDT	172-002
S3A-B	Osc. Spot Switch	172-045
S4	Drive Control Switch	171-106
S5	Bandswitch, Antenna Tuner Switch	171-108
S6	Receiver Function Switch	171-109
S7	Transmitter Function Switch	171-107
S8	Transmit-Receive Switch	172-010
S9	Power On-Off Switch	172-010
RL1 A-B-C	Relay 3P2T, 6 VDC	111-090
RL2 A-B-C	Relay 3P2T, 6 VDC	111-090
M1	Meter	112-035
J1	Antenna Connector Receptacle	344-011
J2	Grid Test Tip Jack	342-018
J3	Key Jack, Closed Circuit	342-001
J4	Speaker Jack, Closed Circuit	342-001
J5	Microphone Jack, 3-Circuit	342-002
P1	10-Pin Connector Receptacle	344-173
P2	Dual Crystal Socket	345-008
P3	Crystal Calibrator Accessory Socket	341-518
DS1	Dial Lamp #1815	471-004
SD1	Selenium Diode 92 PIV	475-012
Z1	Printed Noise Limiter Circuit	069-004

ELECTRON TUBES

Schematic No.	Description	Gonset Part No.
V1	12BY7A	472-029
V2	12BY7A	472-029
V3	676G	472-101
V4	6BZ6	472-041
V5	6U8A	472-005
V6	6BE6	472-010
V7	12BA6	472-063
V8	12BA6	472-063
V9	12AL5	472-055
V10	12AUTA	472-094
V11	OA2	472-049
V12	12AX7	472-022
V13	6CM6	472-038
V14	6DO6B	472-511
V15	6DO6B	472-511
V16	OB2	472-032
V17	12AQ5	472-065
V18	OB2	472-032

REPLACEMENT PARTS LIST

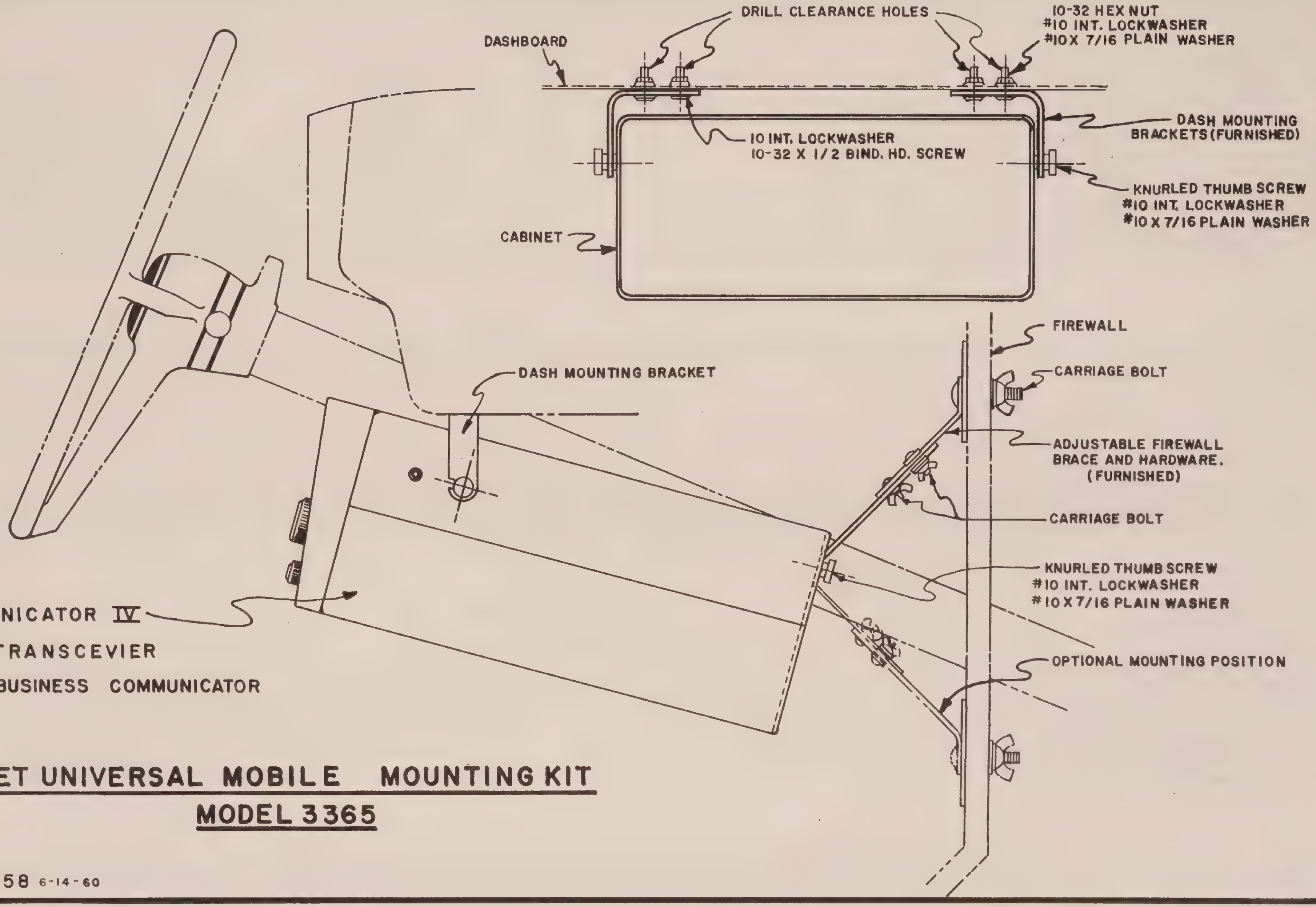
Gonset Part No.	Description	No. Req.
212-019	Knob, With Pointer	1
263-630	Washer, Felt	1
211-006	Knob, Medium (W/Index)	9
211-007	Knob, Small (W/Index)	1
211-005	Knob, Large (W/Index)	1
212-004	Knob, Large	1
212-053	Knob, Medium	1
465-084	Cabinet Weldment	1
114-007	Planetary Drive Assembly (VFO)	1
351-040	Dial Lamp Socket	1
112-035	Meter	1
463-005	Pezel (Die Cast)	1
505-251	Front Panel	1
520-535	Instruction Manual	1
505-253	Dial Receiver	1
505-226	VFO Dial	1
505-267	Dial Window	1

D.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1	100 Ω 2 watts	044-101
R2	2 Ω 20 watts	049-084
R3	1 Ω 5 watts	049-080
R4	1 Ω 5 watts	049-080
R5	1 Ω 5 watts	049-080
R6	1 Ω 5 watts	049-080
R7	470 KΩ 2 watts	044-474
R8	470 KΩ 2 watts	044-474
R9	300 Ω 10 watts	049-088
C1	10 μF 50 V.	073-131
C2	1000 μF 25 V.	073-132
C3	50 μF 500 V.	073-130
C4	50 μF 500 V.	073-130
C5	50 μF 250 V.	073-007
C6	50 μF 250 V.	073-007
C7	8 μF 450 V.	073-030
C8	.22 μF 400 V.	085-032
F1	1/2 Amp 250 V. 3 AG W/Leads	482-062
F2	1/4 Amp 250 V. 3 AG W/Leads	482-061
F3	5 Amp 32 V. 3 AG SB W/Leads	482-060
K1	Relay Input	111-095
K2	Relay B+	111-093
CH1	Hash Choke	027-027
T1	Transformer	271-082
CR1	Silicon Rectifier	474-022
CR2	Silicon Rectifier	474-022
CR3	Silicon Rectifier	474-022
CR4	Silicon Rectifier	474-022
CR5	Silicon Rectifier	474-022
CR6	Silicon Rectifier	474-022
Q1	Transistor	476-006
Q2	Transistor	476-006
Q3	Transistor	476-006
Q4	Transistor	476-006
P1	Power Connector	344-181
	Chassis Frame	443-065
	Top Plate	443-066
	Bottom Plate	443-067
	Power Cable	678-039

A.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1-2	50 KΩ 50 WCT	049-086
R3	47 Ω 1/2 watt	042-470
C1	.0047 μF 1.5 KV Disc	072-215
C2	.0047 μF 1.5 KV Disc	072-215
C3	40 μF 500 WVDC Insulated	073-129
C4	40 μF 500 WVDC	073-009
C5-6	2 x 40 μF 450 WVDC	073-029
C7	250 μF 25 WVDC	073-028
K1	Relay	111-092
CH1	Filter Choke	274-002
CH2	Filter Choke	274-002
CH3	Filter Choke	274-023
T1	Power Transformer	271-079
CR1	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR2	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR3	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR4	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR5	Silicon Rectifier 50 PIV @ 500 Ma.	474-004
F1	5 Amp @ 250 V. 3 AG	482-002
F2	5 Amp @ 250 V. 3 AG	482-002
F3	3/8 Amp @ 250 V. 3 AG	482-063
V1	Tube 5R4GYA	472-535
V2	Tube 5R4GYA	472-535
	Cable Assembly	678-041
	A.C. Cord	696-014
	Speaker 2.3 Ω	152-020
	Pilot Light Assembly	351-041
	Front Panel Assembly	453-482
	Cabinet Weldment	465-085
	Phone Jack	342-001



COMMUNICATOR IV

G-76 TRANSCEVIER

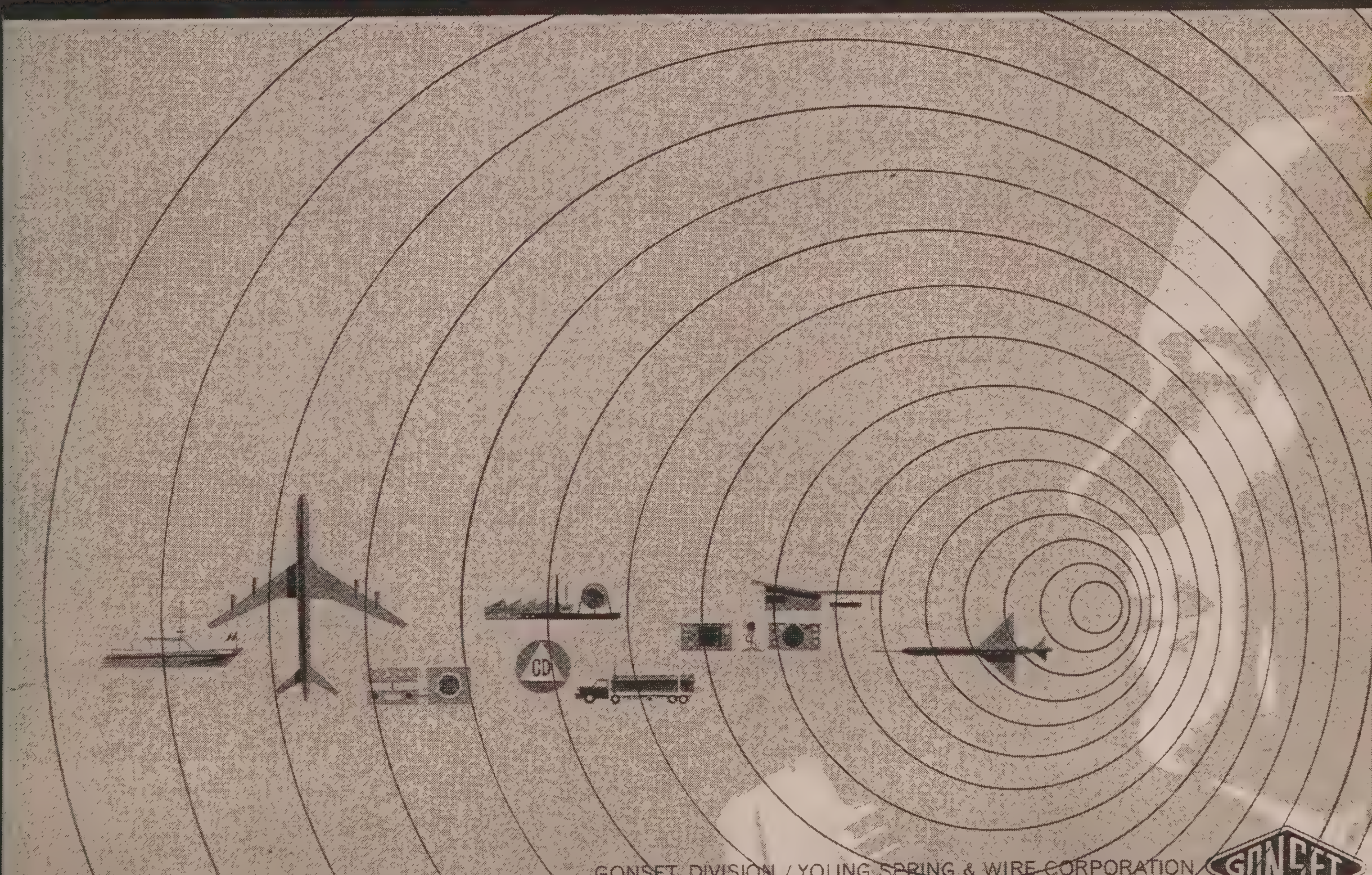
G-150 BUSINESS COMMUNICATOR

GONSET UNIVERSAL MOBILE MOUNTING KIT
MODEL 3365

505-258 6-14-60

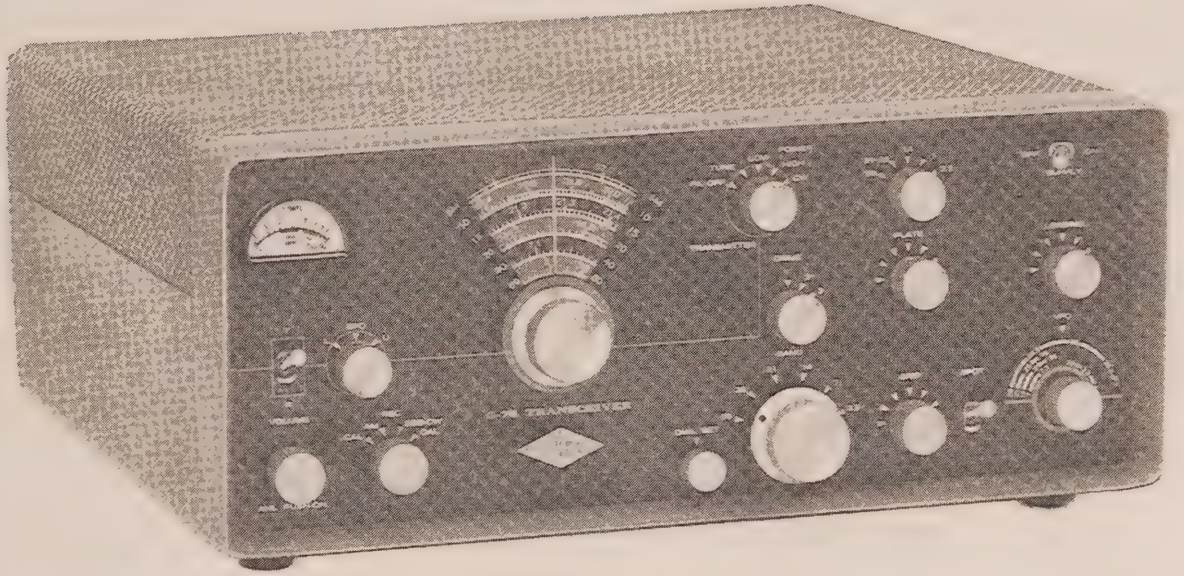
GONSET

INSTRUCTION MANUAL
G-76 MULTI BAND TRANSCEIVER MODEL 3338
G-76 AC POWER SUPPLY MODEL 3349
G-76 DC POWER SUPPLY MODEL 3350



GONSET DIVISION / YOUNG SPRING & WIRE CORPORATION

INSTRUCTION MANUAL
G-76 MULTI BAND TRANSCEIVER MODEL 3338
G-76 AC POWER SUPPLY MODEL 3349
G-76 DC POWER SUPPLY MODEL 3350



GONSET DIVISION

Young Spring & Wire Corporation
801 South Main Street
Burbank, California

MADE IN U.S.A.

Warranty Policy

The Gonset Division warrants its equipment, when properly registered, against defects in workmanship, materials, and construction under normal use and service for a period of 90 days from the date of original purchase. Under this warranty our obligation is limited to repairing or replacing any defective parts.

This warranty does not apply to any equipment which has been tampered with in any way, or which has been misused or damaged by accident or negligence, or which has had the serial number removed, altered or effaced.

On equipment employing a vibrator, all components are covered by the warranty with the exception of the vibrator itself.

This warranty is valid only when the enclosed card is properly filled in and returned within ten days from purchase date.

The Gonset Division reserves the right to discontinue or change, at any time, specifications, design or prices without notice and without incurring obligations.

DO NOT SEND EQUIPMENT TO THE FACTORY WITHOUT FIRST SECURING AUTHORIZATION TO DO SO.

THIS WARRANTY DOES NOT INCLUDE TRANSPORTATION COSTS TO AND FROM THE FACTORY.

GONSET DIVISION
YOUNG SPRING AND WIRE CORPORATION
801 SOUTH MAIN STREET, BURBANK, CALIFORNIA

DANGER, HIGH VOLTAGE

The voltage employed in this unit are sufficient to cause fatel shock under some conditions. Do not attempt to work on the unit out of the cabinet unless you are qualified to the extent of knowing what precautions to observe with regard to avoiding electrical shock.

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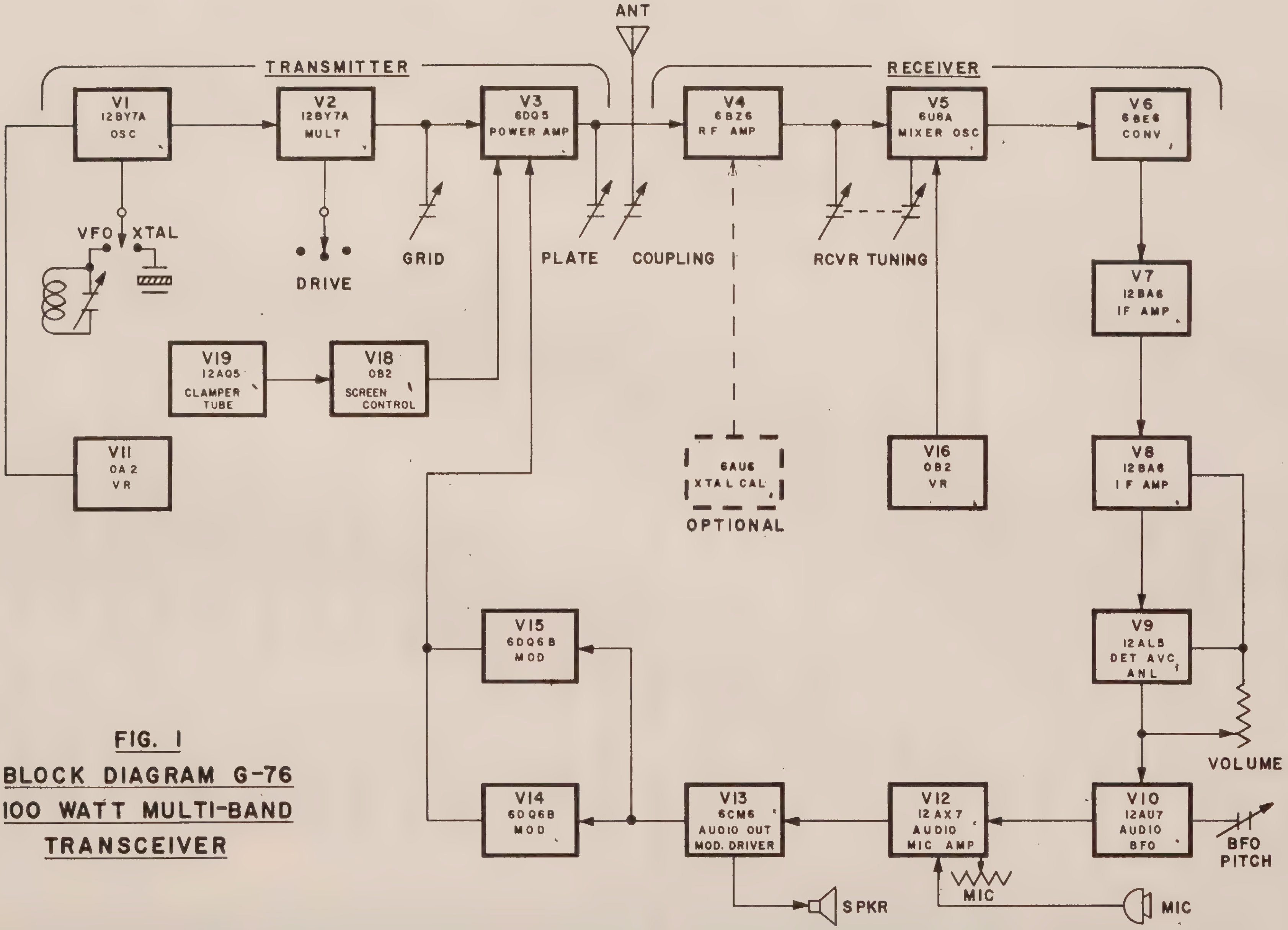


FIG. 1

BLOCK DIAGRAM G-76

100 WATT MULTI-BAND

TRANSCEIVER

505-254
A CHG.

RECEIVER SPECIFICATIONS

Frequency Ranges: Band 1 -- 3.5 - 4.0 megacycles

Band 2 -- 7.0 - 7.3 megacycles

Band 3 -- 14.0 -14.35 megacycles

Band 4 -- 21.0 -21.45 megacycles

Band 5 -- 28.0 -29.7 megacycles

Band 6 -- 50.0 -54.0 megacycles

Sensitivity: Approximately 1 μV at 50 Ω for 6 db signal-plus-noise to noise ratio.

Selectivity: 3 Kc. bandwidth at 6 db down, nominal.
14 Kc. or less, at 60 db down.

Image Rejection:

Typical Figures:

Signal Input	Image
3.5 Mc.	70 db down
7 Mc.	57 db
14 Mc.	58 db
21 Mc.	53 db
28 Mc.	48 db
50 Mc.	30 db

Stability:	Oscillators (both transmitter and receiver) are temperature compensated for negligible frequency drift. Oscillator circuit permits exceptionally wide excursions in power supply voltage, both plate supply and heater supply, with negligible frequency shift. As much as 30% decrease, or 50% increase, may be tolerated even in single sideband reception. This feature is, of course, most important in mobile service. Mechanical stability is excellent.
Antenna Input:	50 ohms unbalanced (coax cable).
Intermediate Frequencies:	First I.F. . . . . 2065 Kc. Second I.F. . . . . 262 Kc.
Audio Output:	2.5 Watts into 3.2 ohms.
Noise Limiter:	Automatic type, switched in or out with front panel controls.
Accessories:	100 Kc. calibrator (Gonset Model 3269). Microphone, High Impedance Ceramic Type (Gonset #3240)

TRANSMITTER SPECIFICATIONS

Frequency Range:	3.5, 7, 14, 21, 28 and 50 Mc. amateur bands.
V F O:	Planetary vernier tuning, choice of crystal control when desired. VFO does not function on 50 Mc. band (8334-9000 Kc. crystal required for this band.) For other bands, crystal frequencies are as follows: 80M 1.75 or 3.5 Mc. 40M 1.75, 3.5 or 7 Mc. 20M 3.5 or 7 Mc. 15M 7-7.15 Mc. 10M 7-7.425 Mc. 6M 8.334-9 Mc.
Input Power:	6DQ5 Power Amplifier 100 Watts, amplitude modulated phone 120 Watts, CW.
Output Impedance:	50 ohms unbalanced (coax cable).

Power Requirements: (Gonset G-76 A.C. Supply - Model 3349).
(Gonset G-76 D.C. Supply - Model 3350).

(1) 12.6 volts A.C. or D.C. at 4.67 amperes. This reduces to 2.17 amps. when the transmitter function switch is set on "FIL OFF", thus allowing for reception only with minimum battery drain.

(NOTE: Transmitter oscillator tube is not turned off in this position.)

(2) 225-275 volts D.C. at 90 MA.

(3) 500-625 volts D.C. at 200 MA., resting current, 330 MA. on voice peaks. (250 MA. average drain on phone.

Dimensions: 12-5/8" wide, 5-1/8" high, 10-1/2" deep.

Shipping Weight: 21 pounds

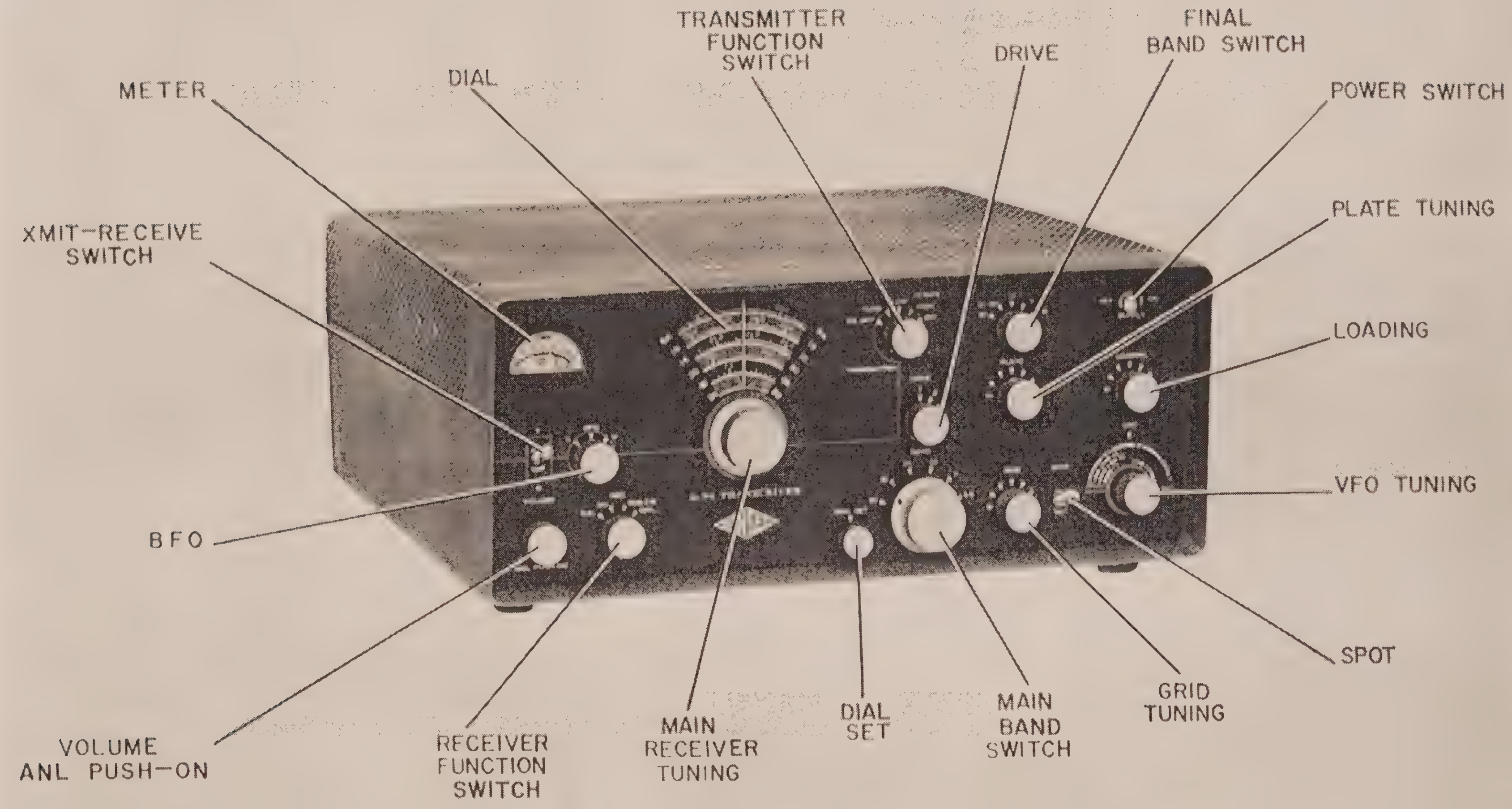


FIG. 2 FRONT PANEL CONTROLS

RECEIVER CONTROLS

Tuning Dial:	8:1 Planetary vernier. Dial scales printed on rotating disc.
Volume Control:	Functions as an audio gain control in A.M. reception and R.F. gain, or sensitivity control, in SSB or CW reception. The push-pull switch on this control switches the automatic noise limiter on (in) and off (out).

Function Control:

Position 1	AM	Cal ON
Position 2	AM	Cal OFF
Position 3	SSB-CW	Cal OFF
Position 4	SSB-CW	Cal ON

NOTE: The 100 Kc. calibrator (Gonset Model 3269) is a plug-in accessory available as optional equipment. It can be switched on in both A.M. and SSB-CW positions.

BFO Pitch Control:	Marked "L" and "U" to indicate approximately the positions for lower and upper sideband reception.
Dial Set:	For minor correction of dial calibration.
Bandswitch:	6 Ranges: 3.5-4 Mc., 7-7.3 Mc., 14-14.35 Mc., 21-21.75 Mc., 28-29.7 Mc., and 50-54 Mc. NOTE: This control also switches bands in the transmitter.
Bandswitch #2:	This control selects the frequency range of the pi matching system, which functions as receiver input circuit, and transmitter output circuit. It has 5 ranges, marked "3.5, 7, 14, 21-28, 50". Note that the 21 and 28 Mc. bands are included in the same position.

TRANSMITTER CONTROLS

Function Control:	
Position 1	FIL.OFF reduces heater drain when receiving only.
Position 2	Tune. Voltage applied only to oscillator. Mult. meter registers grid MA. to final amplifier.
Position 3	Low Power. Plate and loading should be adjusted inthis position to load to 2 or 3 on meter scale. Approximately 20 watts input to final A°M° phone.
Position 4	High power. Full HV applied to final and modulator. Approximately 100 watts A.M.
Position 5	CW. Voltage removed from modulator and modulation transformer shorted out. Approximately 120 watts input. NOTE: Meter reads total cathode current to final amplifier in Positions 4 and 5.
V F O:	Driven by a planetary drive on 3.5, 7, 14, 21 and 28 Mc. ranges. Not operative in the 50 Mc. band. Two sockets are provided for 6- meter crystals or external VFO.
Spot:	Toggle switch turns VFO on for monitoring frequency in receiver. Also functions with crystals when they are used.
Grid:	With function switch in "tune" position, this control is adjusted for maximum grid current, as indicated by the tuning meter.
Drive:	3 positions, marked "1-2-3", indicating low, medium and high respectively. After tuning "grid" for maximum grid current, the drive control is set to the position which falls within the grid current range on the meter scale.
Plate:	Tunes final plate circuit. With the function switch in low or high power, or CW position, tune plate control for dip in meter indication.
Loading:	Output capacitor of pi matching system. Adjust for increase in TUNE position for meter reading of 2 or 3 on the meter scale. adjust for final cathode current of 150 MA max, "plate" tuned for dip, function switch in high power position.
Main Supply Switch:	Heavy-duty toggle turns supply on or off.

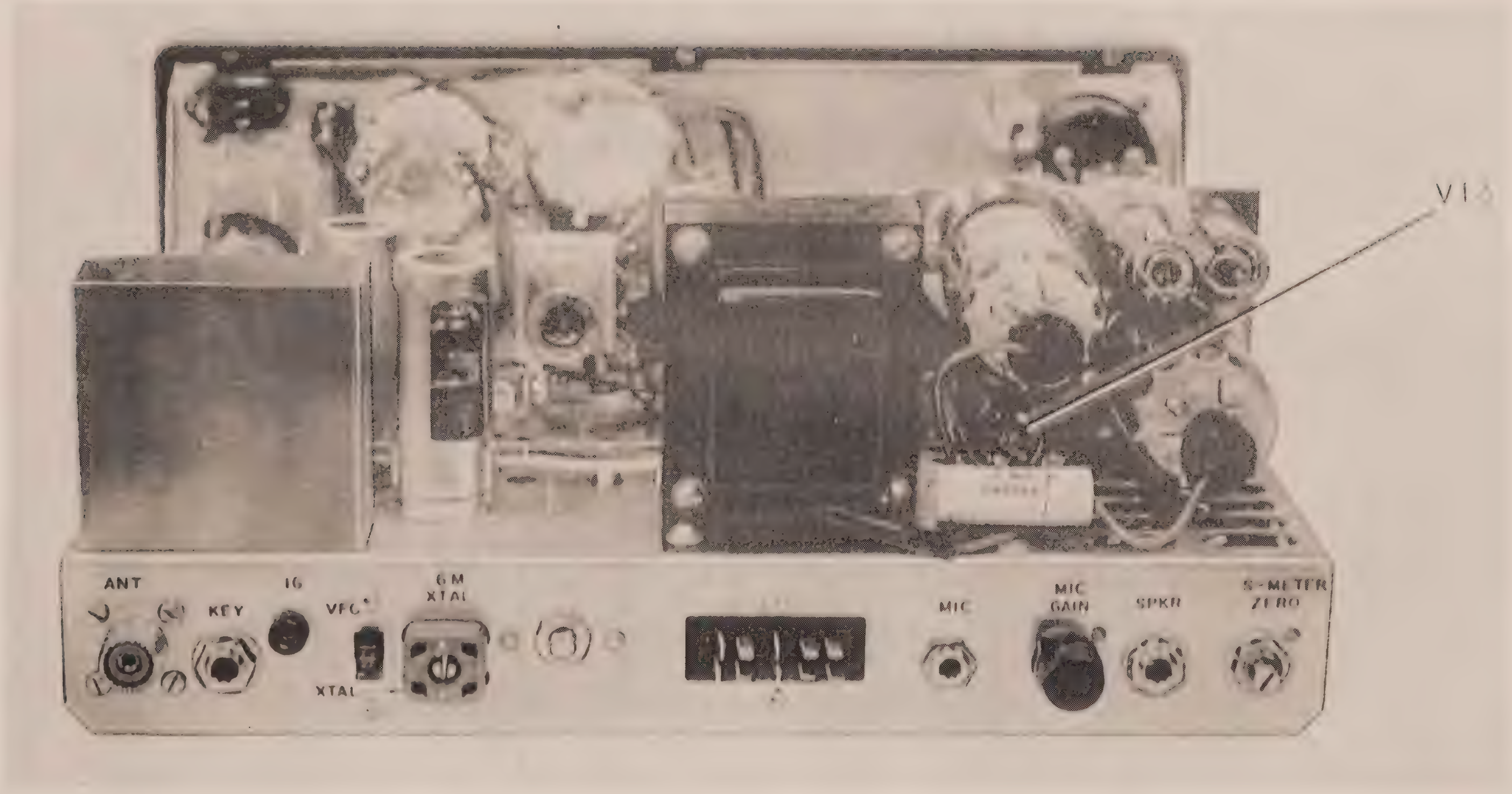


FIG. 3 REAR VIEW

REAR CONTROLS

CW Key Jack:	Driver Cathode Keying
Test Jack:	Final amplifier grid current. For metering grid current when final is operating. (Grid current is metered with panel meter when function switch is in "tune" position, but not when final is actually operating.)
VFO/Crystal Switch:	For switching from VFO to crystal operation.
Crystal Socket:	Dual type for low frequency bands and 6-meter band. (VFO does not operate in 6-meter, 50 Mc. band.) NOTE: Two crystals may be inserted in this dual socket for 6 meters, and selection between them made with the VFO crystal switch.
Power Connector Plug	
Microphone Jack	
Microphone Gain Control	
Speaker Jack	
S Meter Zero Adjust	
Antenna Connector Jack	UHF, coax type SO-239.

INSTALLATION

After unpacking the Gonset G-76 Transceiver, check to make sure all tubes are in place. Check all controls for normal movement. Turn main power switch to OFF position.

For fixed-station operation, connect the Gonset G-76 A.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting A.C. cord to power line.

For mobile operation, connect the Gonset G-76 D.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting positive and negative terminals of power supply to 13.4 volt D.C. source.

(3) Connecting 3.2 ohm speaker to speaker jack at back of chassis.

High voltage to final amplifier and modulator does not appear anywhere in the transceiver proper until the T/R relays close. A relay built into the A.C. power supply, and the D.C. power supply, disconnects the H.V. lead from the supply and grounds it. Thus, when in receive position, the highest voltage present in the transceiver is the nominal 275 volts D.C. from the medium voltage supply. The protective H.V. relay in the power supply is energized when the T/R relays in the transceiver close.

The T/R relay will not operate when the transmitter function switch is in the "FIL OFF" position. In this position, heater current to the modulators and final amplifier is disconnected, conserving battery power when receiving only, and also preventing accidental tripping of the T/R button of the microphone.

The T/R relays will not operate when the VFO "SPOT" switch is on. The transmitter will not operate in the "SPOT" position due to lack of excitation, and final amplifier tube failure could occur before it is realized that the VFO switch was unintentionally left on the "SPOT" position. With the built-in safety feature, the T/R relays will not function until the VFO switch is down in the operate position.

The A.C. power supply includes a high voltage slo-blo fuse to protect it from high voltage short circuits, as well as a fused line plug.

RECEIVER OPERATION

Amplitude Modulated Signals:

(A) Supply Switch................On.

(B) T/R Switch...................Receive position.

(C) Function Control.............Position 2.

(D) ANL..........................OFF or ON, as required.

(E) Bandswitch #1................Set to desired range.

(F) Bandswitch #2................Set to desired range.

(G) Tuning Dial..................Adjust for maximum "S" meter reading on desired signal.

(H) Plate and Loading Adjustment..........When using the G-76 for receiving only, the Pi network should be adjusted for maximum "S" meter reading on a signal. IMPORTANT: See Note (4) Operating Notes.

(I) Volume Control...............Set to desired volume level.

Single Sideband Signals:

(A) Supply Switch................On.

(B) T/R Switch...................Receive position.

(C) Function Control.............Position 3.

(D) Bandswitch #1................Set to desired range

(E) Bandswitch #2................Set to desired range.

(F) BFO Frequency................Set to "U" for upper sideband, or "L" for lower sideband.

(G) Tuning Dial..................Adjust for most natural voice quality.

(H) Volume Control...............Set to desired volume level.

CW Code Signals:

(A) Supply Switch................On.

(B) T/R Switch...................Receive position.

(C) Function Control.............Position 3.

(D) Bandswitch #1................Set to desired range.

(E) Bandswitch #2................Set to desired range.

(F)	BFO Frequency	Set to either "U" or "L" mark.
(G)	Tuning Control............	Adjust for maximum loudness of desired CW signal. Then go back to the BFO control and set it for desired pitch. This adjustment need only be made when it is found desirable to change pitch.
(H)	Volume Control............	Set to desired volume level.

OPERATING NOTES:

(1) To check tuning dial calibration accuracy, switch the calibrator on (receiver function control, Positions 1 or 4), and locate the nearest 100 Kc. marker signal on the dial. Ordinarily the dial set control will set very close to 12 o'clock (straight up) when the tuning dial is reading correctly. With long-term aging effects, humidity, etc., dial accuracy may gradually shift, requiring compensation with the dial set control to varying degrees on each band. Eventually, the oscillator adjustments should be reset to restore original dial accuracy (See alignment procedure). These effects are generally spread over many months of operation. Note that the 100 Kc. calibrator (Gonset Model 3269) is an optional plug-in accessory and must be purchased as an extra.

(2) If it is not known which sideband a station is transmitting, it may be necessary to first try one side, and then the other. It will be found that when the BFO is set to the wrong side, the signal cannot be tuned to an understandable point. In such a case, move the BFO control to the other side, and adjust the tuning dial again until a natural voice is heard.

(3) Pi input circuit (plate tuning and loading) may be adjusted for maximum sensitivity. However, these adjustments are mose effectively made while adjusting the transmitter.

(4) Whenever the Pi controls have been adjusted for transmitting on a particular band, DO NOT READJUST WHEN RECEIVING. These controls are fairly broad for receiving, and each amateur band may be tuned over the entire range without readjustment. For transmitting these controls are quite sharp and critical. Thus, once they are adjusted for transmit, they should be left along while receiving.

TRANSMITTER OPERATION

CAUTION: The following steps must be followed in sequence to prevent damage to the final amplifier.

Amplitude Modulated Signals:

(A) Power Switch.............On.

(B) Tune receiver to desired frequency.

(C) Spot Switch..............Spot position and adjust VFO for maximum meter indication.

(D) Spot Switch..............Off.

(E) Loading Control...........Minimum or CCW.

(F) Transmitter Function Switch..."Tune" Position.

(G) Drive Control..............Position 1 on 80, 40 & 20 meters.
Position 2 or 3 on 10, 15 & 6 meters.

(H) T/R Switch.................Transmit position.

(I) Grid Tuning................Maximum meter indication.

(J) Drive Control..............Set to position corresponding to IG range on meter scale. (NOTE: Minimum of 1/2 to 2 miles as measured at IG meter jack on rear of unit).

(K) Transmitter Function Switch...Low Power

(L) Plate Tuning...............Quickly adjust for sharp dip in meter reading.

(M) Plate Loading..............Increase gradually while adjusting plate control for meter dip until meter reads between 2 and 3.

(N) T/R Switch.................Off

(O) T/R Function Switch........High Power

(P) T/R Switch.................ON

(Q) Loading Control............Increase gradually while adjusting plate control for meter dip, until meter reads 150 MA max.

Caution

Do not change function switch from low to high or high to low power with T/R switch in "ON" position.

CW Signals:

(A) Follow above steps for amplitude modulated signals.

(B) Transmitter Function Switch.....CW position.

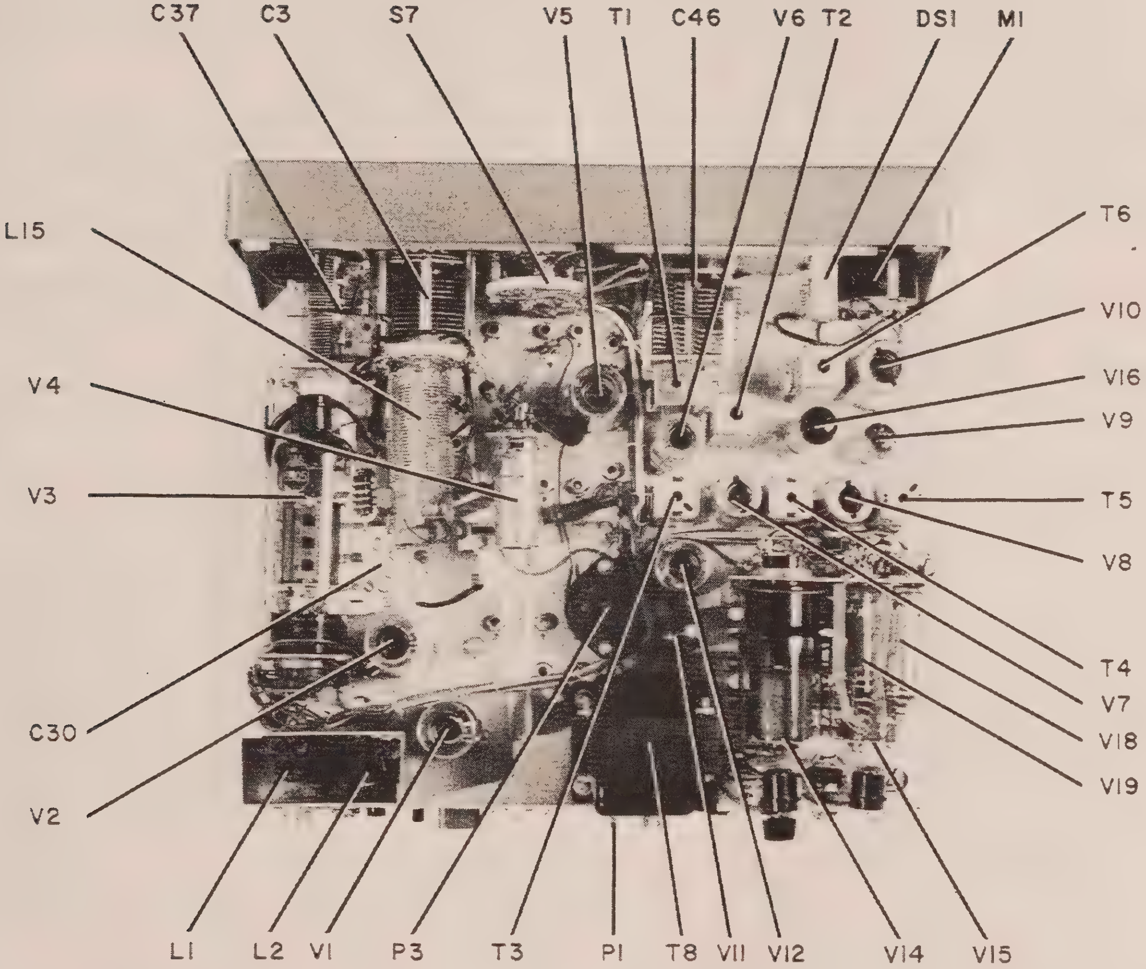


FIG. 4 CHASSIS, TOP VIEW

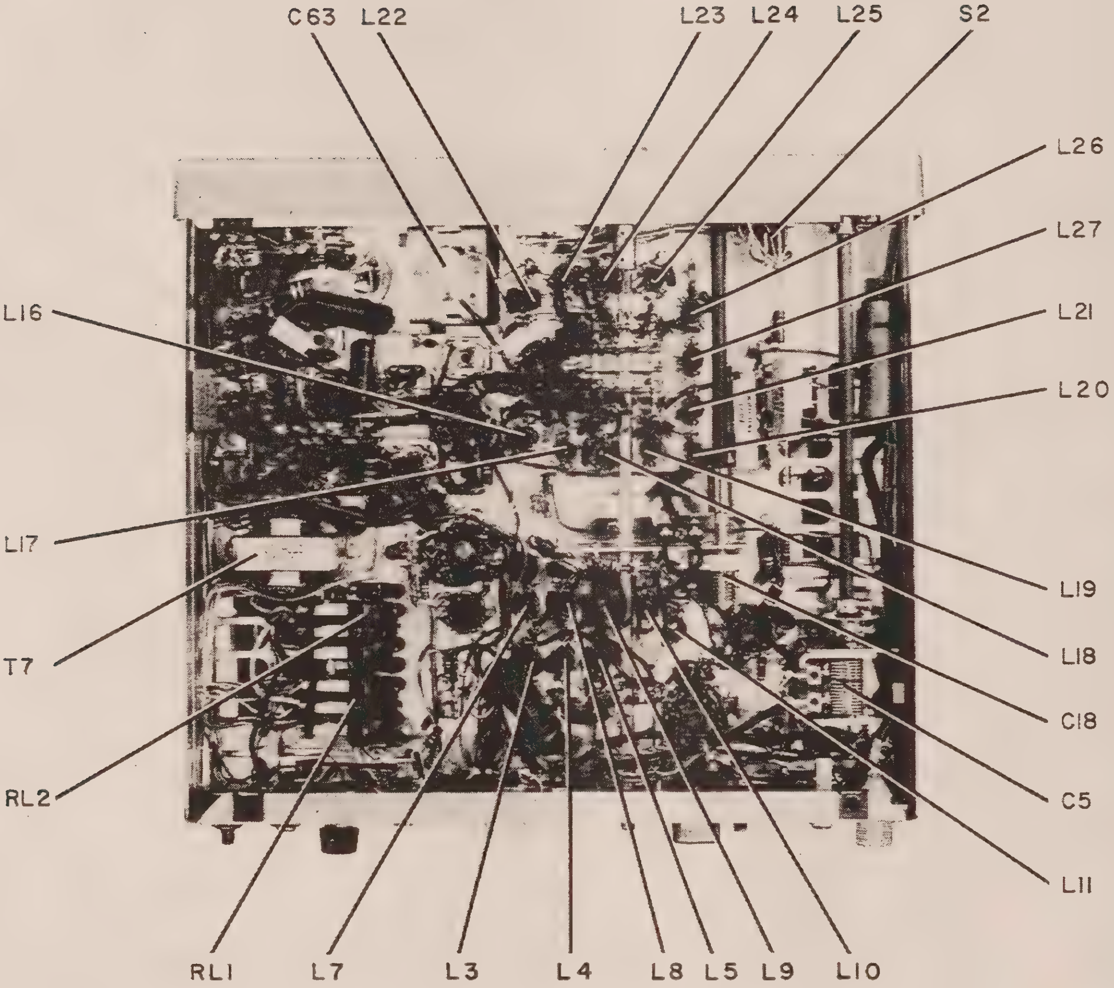


FIG. 5 CHASSIS, BOTTOM VIEW

RECEIVER ALIGNMENT

(Trans. Function Switch at "FIL.OFF")

Step #1

262 Kc. I.F. (1) Connect Signal Generator to Pin 7 of 6BE6 (V6). Use blocking capacitor to protect generator. Approximately .01 mfd. Peak I.F. transformers, T3, T4 and T5 top and bottom, for maximum AVC. Receiver function switch in "AM" position.

(2) After peaking T3, T4 and T5, switch receiver function to "CW-SSB". Set BFO control to 12 o'clock. Adjust T6 (top adjust. only) for zero beat with signal generator. (Generator still set to 262 Kc.)

Step #2

2065 Kc. I.F. Receiver Function set to "AM".

(1) Connect Signal Generator to Pin 2 of 6U8A (V5). Set generator frequency to exactly 2065 Kc. Adjust 2327 Kc. Oscillator (T2) until signal appears.

(2) With Signal Generator set to 2065 Kc., adjust transformer, T1, Top and Bottom, for peak AVC.

Step #3

50 Mc. band alignment...Connect Signal Generator to antenna connector on rear of chassis. Bandswitches both set to "50 Mc." position. Receiver function selector set to "AM" position. Dial set control at 12 o'clock. Set receiver tuning dial to 50 Mc. position. Set signal generator to exactly 50 Mc. (Or, preferably, use a crystal-controlled signal at 50 Mc., or some sub-multiple of 50 Mc.)

(1) Adjust receiver oscillator coil, L27, until signal tunes in at 50 Mc. point on tuning dial.

(2) Set signal generator to exactly 54 Mc. and check high frequency end of tuning dial. Signal should appear at 54 Mc. mark. If it does not, adjust trimmer, C63, until it does.

(3) Go back and check 50 Mc. By adjusting coil, L27, at 50 Mc., and trimmer, C63, at 54 Mc., repeat until 50 and 54 Mc. appear at their respective markings on the dial.

(4) Adjust coil, L21, for maximum AVC voltage.

(5) Recheck 50 and 54 Mc. points for possible interaction from L21 adjustment.

(6) Pi input circuit (plate tuning and loading) may be peaked for maximum AVC, although this is not essential unless sensitivity measurements are being conducted.

Step #4

Alignment, HF bands...After the 50 Mc. VHF band has been properly aligned, as per Step 3, the other bands may be aligned. Following the accompanying chart, adjust the oscillator and mixer coils at the given frequencies.

Band	Sign. Gen. Freq.	Oscillator Coil	Mixer Coil
28 Mc.	28.7	L26	L20
21	21.3	L25	L19
14	14.2	L24	L18
7	7.2	L23	L17
3.5	3.8	L22	L16

Adjust the oscillator coils until the generator signal appears at the correct dial position. Then adjust the mixer coil for maximum signal. Finally, recheck the oscillator setting for possible interaction from mixer tuning.

Note that the 5 HF bands have only one oscillator adjustment. Trimmer C63 is to be used only for tracking the 50-54 Mc. band, after which the HF bands should track closely. If any of the HF bands do not track closely, it means that capacity tolerances are off, and a capacitor change may be necessary.

The Pi input circuit need not be tuned for peak signal when adjusting the oscillator or mixer. For sensitivity measurements, however, the Pi network should be set to the proper band, and adjusted for maximum signal.

Sensitivity of the G-76 receiver section will measure approximately 6 db signal-plus-noise to noise ratio with an input of 1 microvolt at 50 ohms.

Image Rejection, typical figures:

60 db at 3.5 Mc.
60 db at 7 Mc.
50 db at 14 Mc.
45 db at 21 Mc.
40 db at 28 Mc.
30 db at 50 Mc

The primary image will occur at a frequency 4.13 Mc. higher than the desired signal, except in the 50-54 Mc. band, where the image will occur 4.13 Mc. below the signal.

Selectivity: 3 Kc. at 6 db down, nominal. Less than 14 Kc. wide at 60 db down.

TRANSMITTER ALIGNMENT

Step #1 - VFO Adjustment

(1) Set bandswitches to 7 Mc. and receiver function switch to A.M. Set receiver tuning dial to 7 Mc. Set VFO crystal switch on rear of chassis to VFO position. Throw VFO spot switch up to "SPOT" position. Set VFO control to 7 Mc. and adjust L1, top of rear - right shield can, until a strong signal is received. This adjustment sets the VFO frequency for the 3.5-4 and 7-7.3 Mc. bands.

(2) Set bandswitches to 14 Mc., receiver function to A.M., and receiver tuning dial to 14 Mc. Set VFO control dial to 14 Mc. and throw switch to "SPOT" position. Adjust L2, top of shield can next to L1, until a signal is received. This adjustment sets the VFO for the 14-14.35, 21-21.45 and 28-29.7 Mc. bands.

NOTE: The 50 Mc. band does not use the VFO, but requires a crystal of 8.334 to 9 Mc. frequency inserted in the upper crystal position at the back of the chassis. Crystals may be used on the lower HF bands by inserting them in the lower crystal position, and switching the rear slide switch down to the "Xtal" position.

Step #2 - Oscillator Plate and Multiplier Adjustment

(1) 80 Meters...set transmitter function switch to "TUNE" position, "SPOT" switch down, bandswitches at 3.5 Mc. position, and VFO dial at 7 Mc. Set "DRIVE" control at Position #1. Throw T/R toggle switch up to the transmit position. In the tune position, only the 12BY7's in the oscillator and multiplier stages are functioning, so there is no concern for the final amp. or modulator at this time. Adjust the "Grid" tuning for maximum meter indication. At 4 Mc. the grid tuning capacitor should be nearly open. The adjustable core of L7 should be left at a position where both 3.5 and 4 Mc. can be peaked with the grid tuning dial.

(2) 40 Meters...set bandswitches to 7 Mc. position, and VFO dial to 7 Mc. with T/R switch in "T" position, adjust "Grid" tuning for maximum meter reading. This should occur with the grid tuning capacitor about 80% meshed. Adjust Coil L8 for this condition. Now, set the VFO to approximately 7.2 Mc. and adjust Coil L3 for maximum meter reading. L3 is the oscillator plate coil.

(3) 20 Meters...set bandswitches to 14 Mc. and VFO dial to 14 Mc. With the T/R switch up in the "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 80% meshed. Coil L9, associated with this band, is not adjustable. This test merely serves as a check on L9 and its associated capacitor C21.

(4) 15 Meters...set bandswitches to 21 Mc. and VFO dial to 21.25 Mc. With the T/R switch in "T" position, adjust grid tuning for maximum meter reading. This should occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L4, the oscillator plate coil for maximum meter reading.

(5) 10 Meters...set bandswitches to 28 Mc. and VFO to 29 Mc. With T/R switch in "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L5, the oscillator plate coil, for maximum meter reading.

(6) 6 Meters...set bandswitches to 50 Mc. Insert a 6-meter crystal in upper crystal socket. Its frequency must be between 8334 and 9000 Kc., preferably somewhere in the lower part of this range. Switch to "T" position and adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed.

Step #3 - Final Power Amp. Adjustment

(1) Connect dummy load, 52 ohm impedance to antenna jack.

(2) Set neutralizing capacitor tentatively to about 25% mesh.

(3) Set bandswitches to 3.5 Mc., VFO dial to 3.8 Mc., tune grid circuit, as per preceding instructions. After peaking grid current (meter reading) with the grid tuning dial, set the drive control to position which provides a meter reading nearest to the "1G" range on the meter scale. On 80 meters, this will most likely be with drive in Position 1.

(4) Turn the loading control to minimum, CCW position. Now set the transmitter function switch to low power, and T/R switch to "T" position. Quickly adjust plate tuning for a sharp dip in meter reading (1P). Now switch to high power position. CAUTION: Dangerous voltages are present in the circuitry at this time. Keep hands out!

The output power indicator (watt meter) should now be indicating about 30 watts of power. Gradually increase the loading control, at the same time carefully tuning the plate control for meter dip, until the meter reads 150 to 160 MA. This is the operating range for A.M. phone in the high power position. Power input to the 6DQ5 is now approximately 100 watts.

(5) Repeat the above procedure on each of the other bands. Always keep the plate tuning adjusted for the dip in meter reading, particularly in the high power position, as the 6DQ5 can be seriously overloaded if this is not done.

(6) Neutralization. This adjustment must be a compromise, since it changes slightly between bands. Tentatively, make neutralizing checks on 15 meters first. Adjust the trimmer C30 until the meter reading does not increase sharply under modulation. Preferably, it should not increase at all. Grid tuning will have some reaction on this adjustment.

(7) 6-meter neutralization employs a feedback link which must also be adjusted for minimum increase of meter reading. This link is not a critical adjustment, but polarity must be correct. The twisted line which connects the links is color coded. If connected the wrong way, the amplifier will, of course, be extremely unstable on 6 meters.

(8) Modulation. Set the Mic. Gain to about its mid-point and insert a high impedance mike (Gonset 3240) in the jack. The swing in modulator plate current will not show on the front panel meter. The percentage of modulation should be checked by some external means.

(9) A test jack on the chassis rear may be used for metering grid current when final amp. is operating. Nominal grid current is 2 MA.

TRANSMITTER VOLTAGE CHART

14 Mc. Band - VFO Control

Tube	Pin Numbers								
	1	2	3	4	5	6	7	8	9
				(Spot Switch UP)					
V1 12BY7A	0	-7	0	0	12.6AC	6.3AC	+110	+105	0
V2 12BY7A	0	-10	0	0	12.6AC	6.3AC	+12	+.5	0
				(Tune Position - 6DQ5 and 6DQ6's not operating)					
V1 12BY7A	0	-11	0	0	12.6AC	6.3AC	+260	+150	0
V2 12BY7A	0	-15	0	0	12.6AC	6.3AC	+260	+100 Lo +140 M +210 Hi	0
V3 6DQ5	-50	0	0	-7	-50	0	6.3AC	-7	Cap -7
				(Lo Power Position - 6DQ5 and 6DQ6's operating at med. voltage)					
V3 6DQ5	-43	0	+1	+55	-43	+1	6.3AC	+55	Cap Do not meas.
V12 12AX7	+100	0	+1	0	12.6AC	+84	-7	0	6.3AC
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +225
				(Hi Power Position - 6DQ5 and 6DQ6's operating at high voltage)					
V3 6DQ5	-45	0	+4	+115	-45	+4	6.3AC	+115	Cap Do not meas.
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +625 (Caution)

RECEIVER VOLTAGE CHART

Tube	Pin Numbers								
	1	2	3	4	5	6	7	8	9
V4 6BZ6	-2.5	0	6.3*	0	+250	+140	0	---	---
V5 6U8A	+35	-2	+35	6.3*	0	+275	0	0	-2
V6 6BE6	-7	0	12.6*	6.3*	+265	+100	-2	---	---
V7 12BA6	-2.5	0	0	12.6*	-215	+85	+1.2	---	---
V8 12BA6	0	0	12.6*	0	+245	+70	+1.7	---	---
V9 12AL5	0	-1.6	0	9*	-.5	0	-2.7	---	---
V10 12AU7	+240	0	+85	0	12.6*	+40	0	+2	6.3*
V11 OB2	+105	0	0	0	+105	0	0	---	---
V12 12AX7	-.7	-.7	0	0	12.6*	+90	-.7	0	6.3*
V13 6CM6	+275	+17	0	12.6*	6.3*	0	+17	0	+265

Bandswitch at 14 Mc.
Receiver Function Switch at "AM CAL."
Transmitter Function Switch at "FIL OFF"
Antenna Disconnected.
*A.C. volts

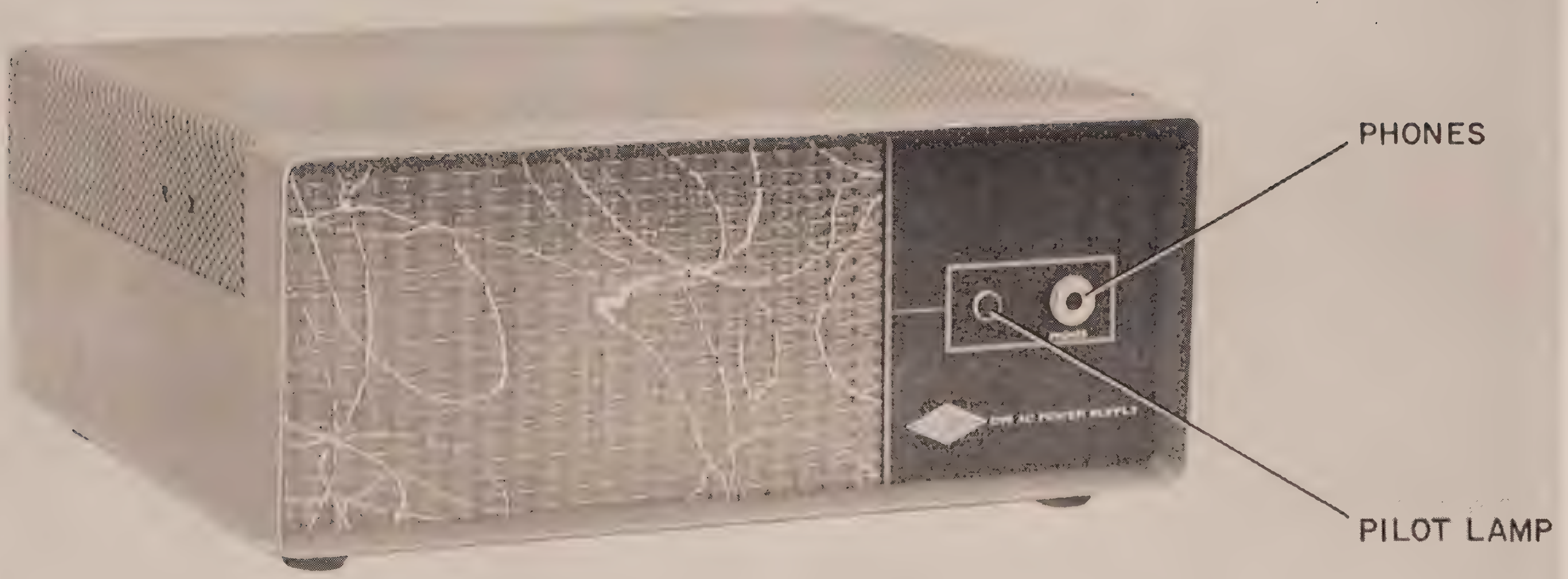


FIG. 6, A.C. POWER SUPPLY

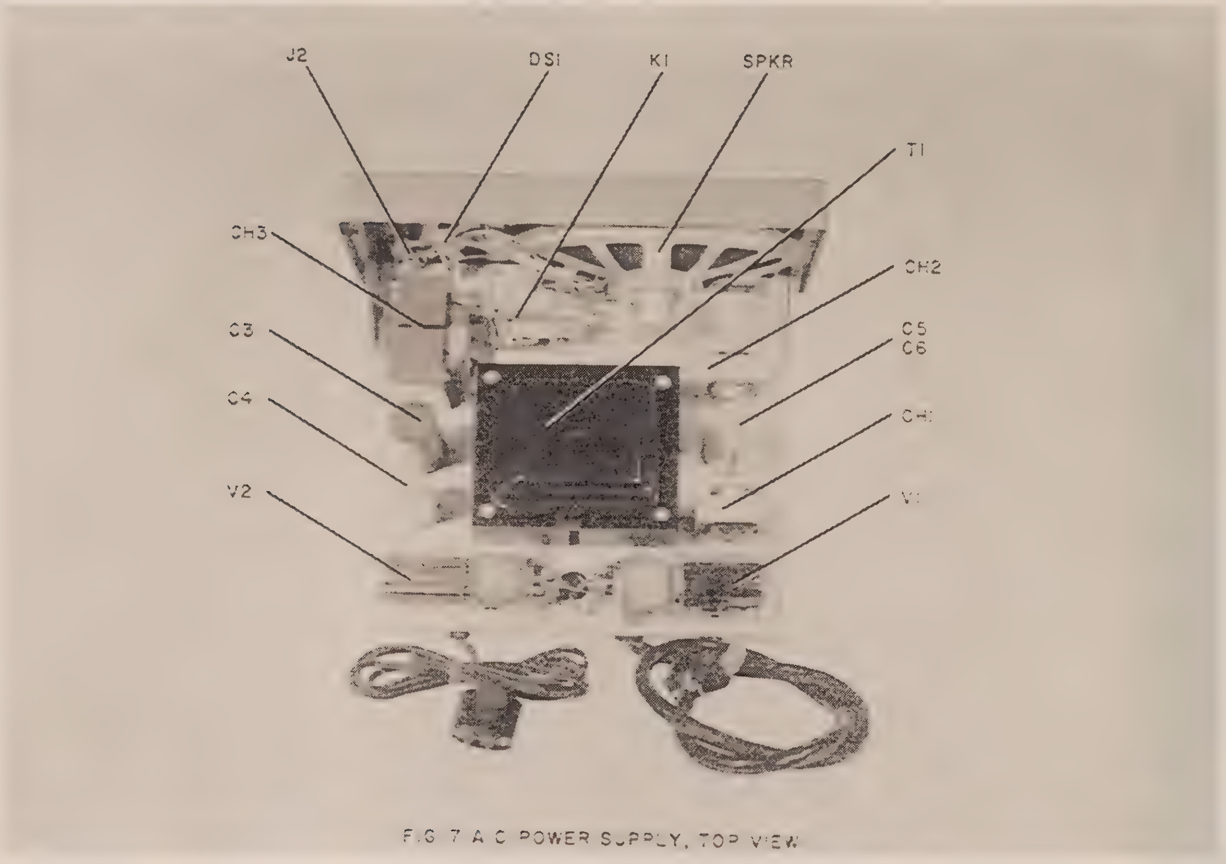


FIG 7 A C POWER SUPPLY, TOP VIEW

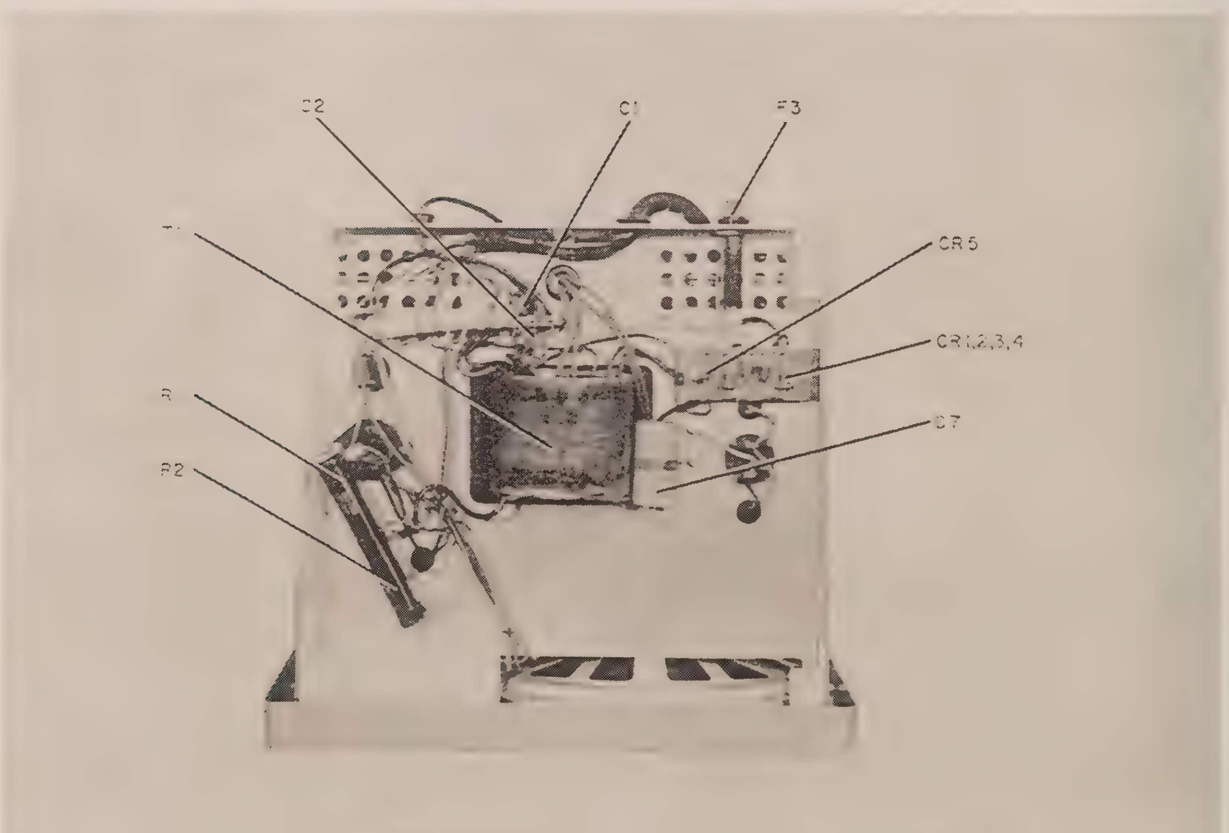
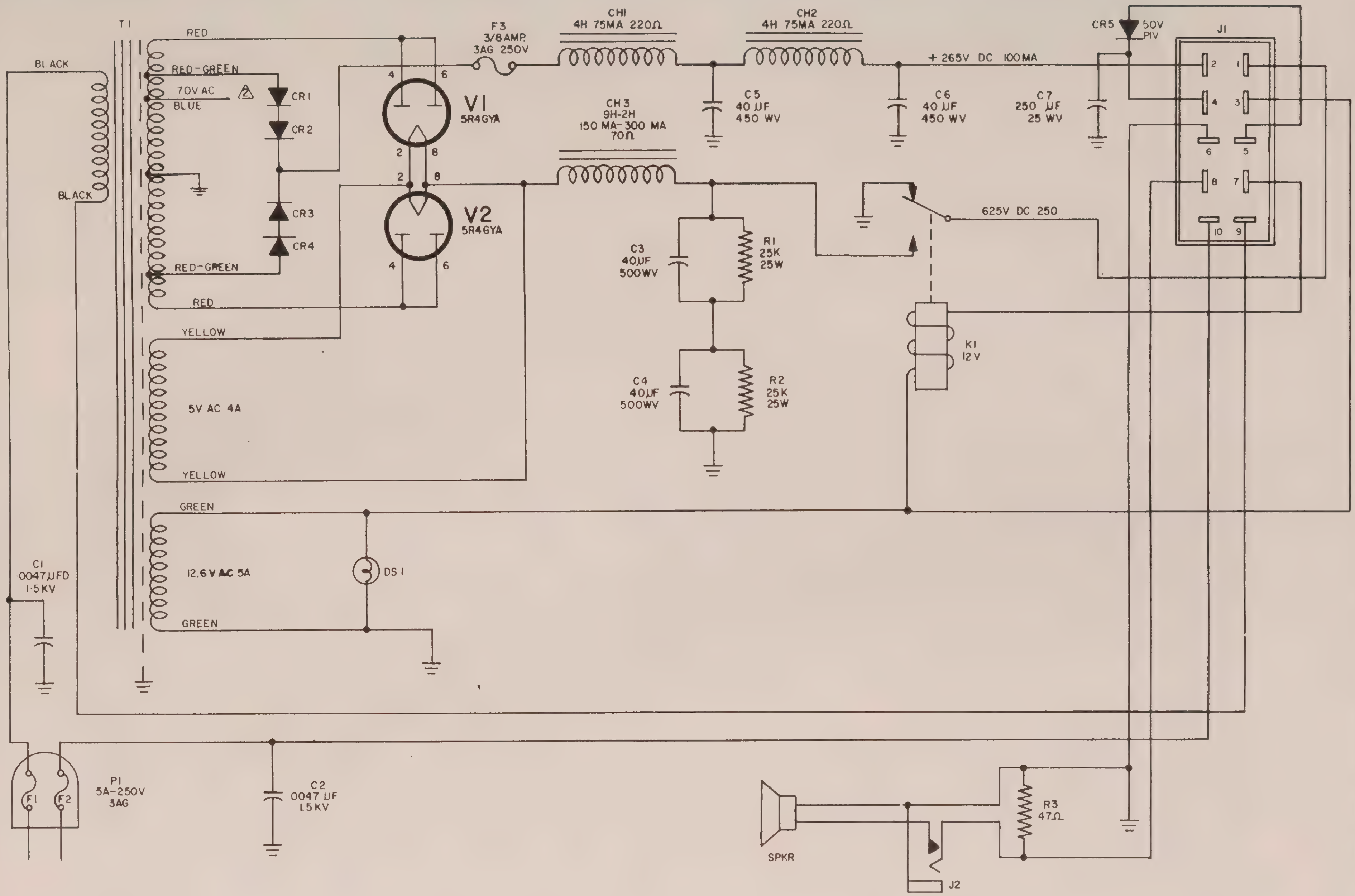


FIG 8 A C POWER SUPPLY, BOTTOM VIEW



6. RIPPLE ON 265VDC LINE, .05 VRMS
5. % OF REGULATION ON 265VDC LINE, 10% (90MA-120MA)
4. RIPPLE ON 625 VDC, 5.0VRMS
3. % OF REGULATION ON 625 VDC LINE, 10% (50MA-250MA)
⚠2 70V AC NOT USED THIS CIRCUIT
1. J1 VIEWED FROM WIRING SIDE
NOTE:

G-76 AC POWER SUPPLY

510-086 6-28-60

LETT	CHANGE	APP	DATE
A	CHANGED LOCATION OF F3		11-10-6

G-76 AC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 117 VAC at 3 amps. Receive - 117 VAC at 1.5 amps.
High Voltage Output:	600 VDC at 250 MA. Regulations 10%, Ripple 5.0 VRMS
	265 VDC at 120 MA. Regulation 10%, Ripple .05 VRMS
Filament Output:	12.6 VAC @ 5 amps.
Dimensions:	12-5/8" wide, 5-1/8" high, 10-1/2" deep.
Fuses:	2-5 amp. 250 V. 3 AG 1-3/4 amp. 250 V. 3 AG

G-76 DC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 13.4 VDC at 22.5 amps. Receive - 13.4 VDC at 10 amps.
High Voltage Output:	600 VDC at 300 MA. Regulation 10%, Ripple 2.5 VRMS
	250 VDC at 130 MA. Regulation 10%, Ripple .8 VRMS.
Filament Output:	D.C. input carried through.
Dimensions:	8.18" wide, 3-1/2" high, 6-1/2" deep.
Fuses:	2-30 amp. suggested.

SHIPPING WEIGHT

D.C. Power Supply:	10 pounds
A.C. Power Supply:	32 pounds

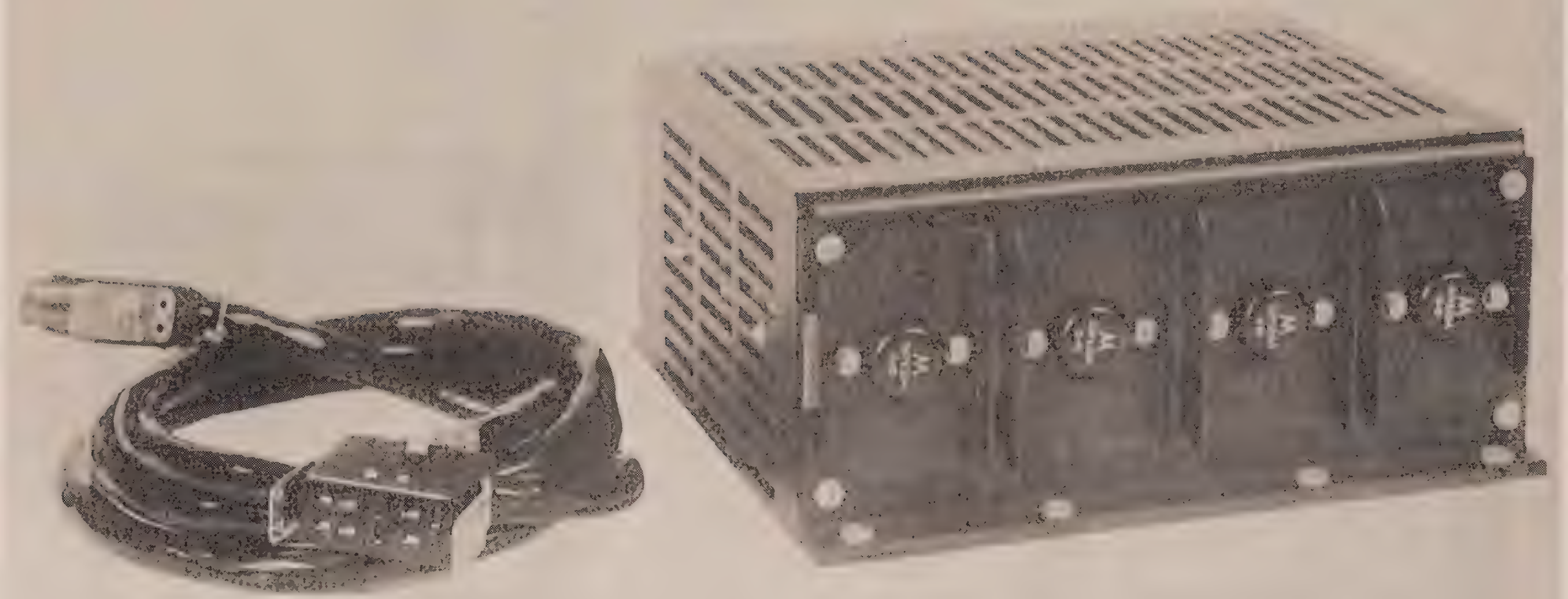


FIG. 9 D. C. POWER SUPPLY

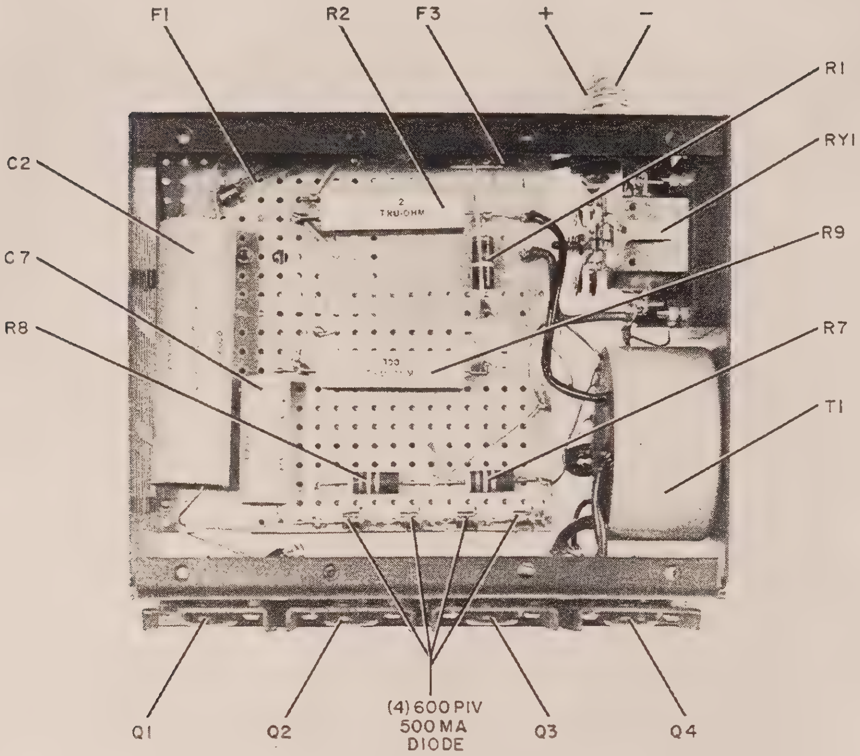


FIG. 10 D.C. POWER SUPPLY, TOP VIEW

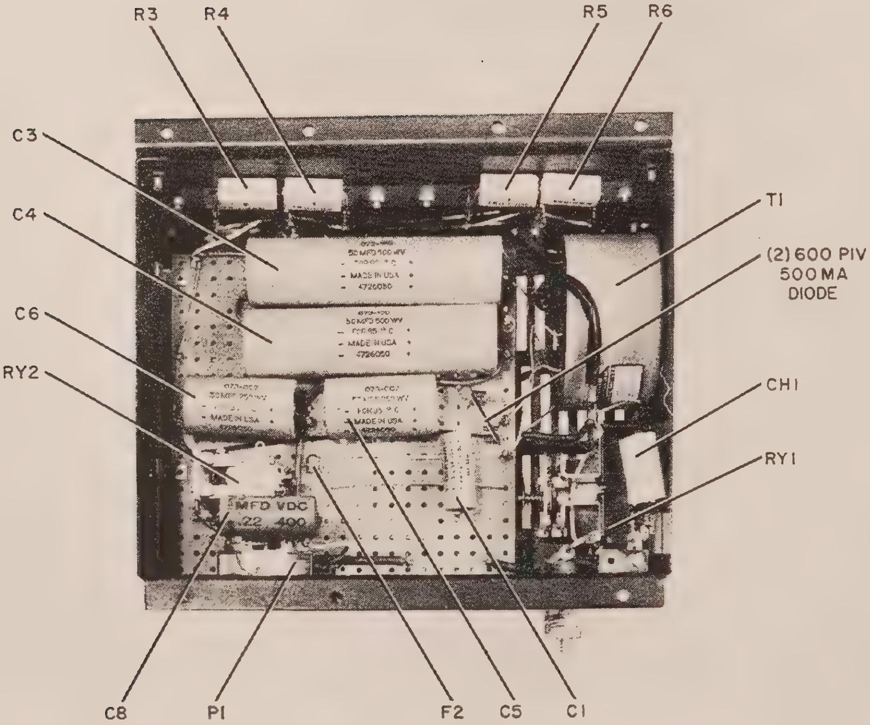
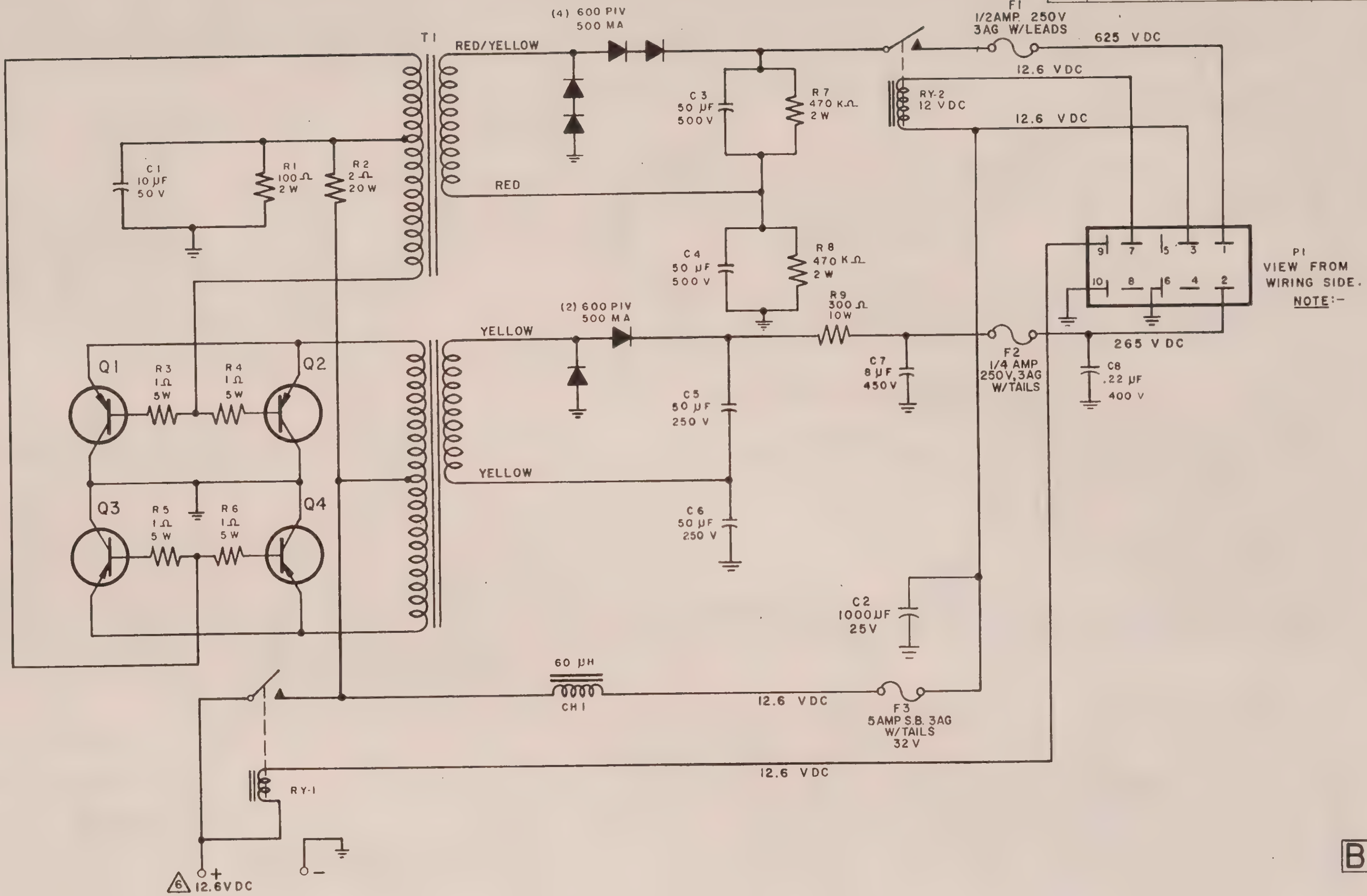


FIG. 11 D.C. POWER SUPPLY, BOTTOM VIEW

LET	REVISION	APP.	DATE
A	ADDED: C8.		
B	ADDED: F1, F2, F3. - DELETE GREEN TAP		11-10-60



B CHG

G-76 D.C. POWER SUPPLY

6 USE 13.4 VDC FOR TEST PURPOSES

4. RIPPLE ON 265 VDC LINE .8 VRMS
3. % OF REGULATION ON 265 VDC LINE, 10% (130 MA – 95 MA)
2. RIPPLE ON 650 VDC LINE 2.5 VRMS
1. % OF REGULATION ON 650 VDC LINE, 10% (300 MA – 50 MA)

NOTES:

510-085 6-21-60

MISCELLANEOUS COMPONENTS

Schematic No.	Description	Gonset Part No.
RFC 1	R-F Choke, 200 µH	027-017
RFC 2	R-F Choke, 200 µH	027-017
RFC 3	R-F Choke, 50 µH	027-018
RFC 4	R-F Choke, 200 µH	027-017
RFC 5	R-F Choke, 80 µH	027-081
RFC 6	R-F Choke, 200 µH	027-017
RFC 7	R-F Choke, 2.2 µH	027-053
S1	Band Switch Shaft Assembly only	171-110
S1A	Receiver Osc. Plate Wafer	171-111
S1B	Receiver Osc. Grid Wafer	171-112
S1C	Receiver Mixer Grid Wafer	171-112
S1D	Receiver R-F Plate Wafer	171-111
S1E	Transmitter Final Grid Wafer	171-113
S1F	Transmitter Osc Plate Wafer	171-113
S1G	VFO H-F Section	171-114
S1H	VFO L-F Section	171-114
S2	VFO-Crystal Switch DPDT	172-002
S3A-B	Osc. Spot Switch	172-045
S4	Drive Control Switch	171-106
S5	Bandswitch, Antenna Tuner Switch	171-108
S6	Receiver Function Switch	171-109
S7	Transmitter Function Switch	171-107
S8	Transmit-Receive Switch	172-010
S9	Power On-Off Switch	172-010
RL1 A-B-C	Relay 3P2T, 6 VDC	111-090
RL2 A-B-C	Relay 3P2T, 6 VDC	111-090
M1	Meter	112-035
J1	Antenna Connector Receptacle	344-011
J2	Grid Test Tip Jack	342-018
J3	Key Jack, Closed Circuit	342-001
J4	Speaker Jack, Closed Circuit	342-001
J5	Microphone Jack, 3-Circuit	342-002
P1	10-Pin Connector Receptacle	344-173
P2	Dual Crystal Socket	345-008
P3	Crystal Calibrator Accessory Socket	341-518
DS1	Dial Lamp #1815	471-004
SD1	Selenium Diode 92 PIV	475-012
Z1	Printed Noise Limiter Circuit	069-004

D.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1	100 Ω 2 watts	044-101
R2	2 Ω 20 watts	049-084
R3	1 Ω 5 watts	049-080
R4	1 Ω 5 watts	049-080
R5	1 Ω 5 watts	049-080
R6	1 Ω 5 watts	049-080
R7	470 KΩ 2 watts	044-474
R8	470 KΩ 2 watts	044-474
R9	300 Ω 10 watts	049-088
C1	10 µF 50 V.	073-131
C2	1000 µF 25 V.	073-132
C3	50 µF 500 V.	073-130
C4	50 µF 500 V.	073-130
C5	50 µF 250 V.	073-007
C6	50 µF 250 V.	073-007
C7	8 µF 450 V.	073-030
C8	.22 µF 400 V.	085-032
F1	1/2 Amp 250 V. 3 AG W/Leads	482-062
F2	1/4 Amp 250 V. 3 AG W/Leads	482-061
F3	5 Amp 32 V. 3 AG SB W/Leads	482-060
K1	Relay Input	111-095
K2	Relay B+	111-093
CH1	Hash Choke	027-027
T1	Transformer	271-082
CR1	Silicon Rectifier	474-022
CR2	Silicon Rectifier	474-022
CR3	Silicon Rectifier	474-022
CR4	Silicon Rectifier	474-022
CR5	Silicon Rectifier	474-022
CR6	Silicon Rectifier	474-022
Q1	Transistor	476-006
Q2	Transistor	476-006
Q3	Transistor	476-006
Q4	Transistor	476-006
P1	Power Connector	344-181
	Chassis Frame	443-065
	Top Plate	443-066
	Bottom Plate	443-067
	Power Cable	678-039

ELECTRON TUBES

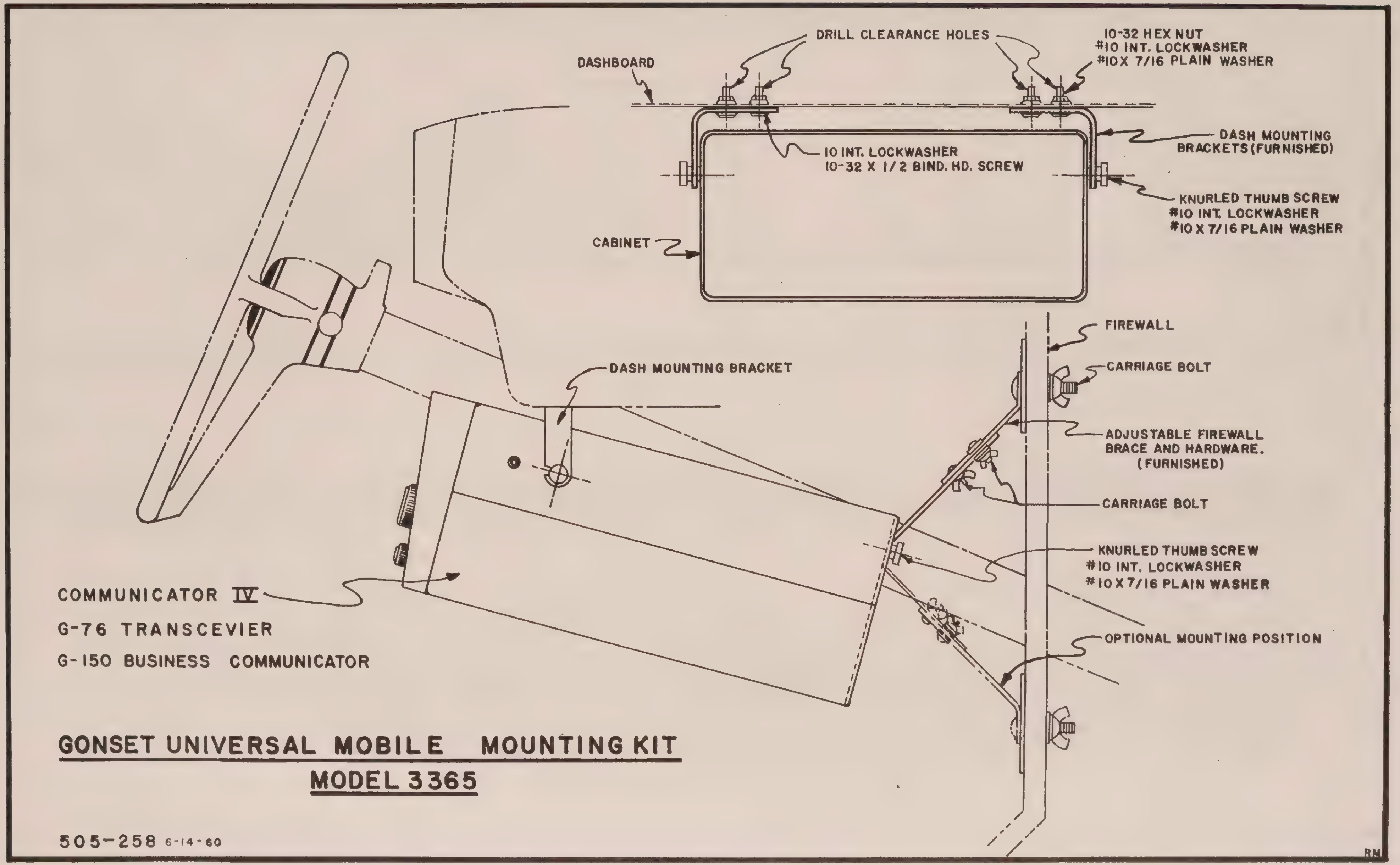
Schematic No.	Description	Gonset Part No.
V1	12BY7A	472-029
V2	12BY7A	472-029
V3	6?6G	472-101
V4	6BZ6	472-041
V5	6U8A	472-005
V6	6BE6	472-010
V7	12BA6	472-063
V8	12BA6	472-063
V9	12AL5	472-055
V10	12AU7A	472-094
V11	OA2	472-049
V12	12AX7	472-022
V13	6CM6	472-038
V14	6DQ6B	472-511
V15	6DQ6B	472-511
V16	OB2	472-032
V17	12AQ5	472-065
V18	OB2	472-032

REPLACEMENT PARTS LIST

Gonset Part No.	Description	No. Req.
212-019	Knob, With Pointer	1
263-630	Washer, Felt	1
211-006	Knob, Medium (W/Index)	9
211-007	Knob, Small (W/Index)	1
211-005	Knob, Large (W/Index)	1
212-004	Knob, Large	1
212-053	Knob, Medium	1
465-084	Cabinet Weldment	1
114-007	Planetary Drive Assembly (VFO)	1
351-040	Dial Lamp Socket	1
112-035	Meter	1
463-005	Bezel (Die Cast)	1
505-251	Front Panel	1
520-535	Instruction Manual	1
505-253	Dial Receiver	1
505-226	VFO Dial	1
505-267	Dial Window	1

A.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1-2	50 KΩ 50 WCT	049-086
R3	47 Ω 1/2 watt	042-470
C1	.0047 µF 1.5 KV Disc	072-215
C2	.0047 µF 1.5 KV Disc	072-215
C3	40 µF 500 WVDC Insulated	073-129
C4	40 µF 500 WVDC	073-009
C5-6	2 x 40 µF 450 WVDC	073-029
C7	250 µF 25 WVDC	073-028
K1	Relay	111-092
CH1	Filter Choke	274-002
CH2	Filter Choke	274-002
CH3	Filter Choke	274-023
T1	Power Transformer	271-079
CR1	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR2	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR3	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR4	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR5	Silicon Rectifier 50 PIV @ 500 Ma.	474-004
F1	5 Amp @ 250 V. 3 AG	482-002
F2	5 Amp @ 250 V. 3 AG	482-002
F3	3/8 Amp @ 250 V. 3 AG	482-063
V1	Tube 5R4GYA	472-535
V2	Tube 5R4GYA	472-535
	Cable Assembly	678-041
	A.C. Cord	696-014
	Speaker 2.3 Ω	152-020
	Pilot Light Assembly	351-041
	Front Panel Assembly	453-482
	Cabinet Weldment	465-085
	Phone Jack	342-001



GONSET UNIVERSAL MOBILE MOUNTING KIT
MODEL 3365

505-258 6-14-60

CAPACITORS

Schematic No.	Description	Gonset Part No.
C1	750 μμF Silver Mica, Tol. ±1%	088-182
C2	3000 μμF Silver Mica, Tol. ±2%	088-183
C4	3000 μμF Silver Mica, Tol. ±2%	088-183
C5A-B	2-Section Variable	074-120
C6	470 μμF Silver Mica, Tol. ±5%	088-016
C7	22 μμF Tubular N750, Tol. ±5%	084-238
C8	150 μμF Silver Mica, Tol. ±5%	088-077
C9	.01 μF Disc 500 V. GP	072-173
C10	200 μμF Disc GPSL Tol. ±5%	072-225
C11	30 μμF Disc GPSL Tol. ±10%	072-206
C12	50 μμF Disc GPSL Tol. ±5%	072-131
C14	.01 μF Disc 500 V. GP	072-173
C15	10 μμF Tubular GPSL Tol. ±1 μμF	071-008
C16	.01 μF Disc 300 V. GP	072-169
C17	.01 μF Disc 500 V. GP	072-173
C18	Variable Grid Tuning	074-113
C19	68 μμF Silver Mica, Tol. ±5%	088-188
C20	100 μμF Silver Mica, Tol. ±5%	088-017
C21	33 μμF Silver Mica, Tol. ±5%	088-079
C22	100 μμF Tubular GP Tol. ±10%	071-013
C23	470 μμF Silver Mica, Tol. ±5%	088-016
C24	.01 μF Disc 300 V. GP	072-169
C25	.001 μF Disc 3 KV, GP	072-223
C26	.01 μF Disc 500 V. GP	072-173
C27	.01 μF Disc 500 V. GP	072-173
C28	.001 μF Disc 3 KV GP	072-223
C29	.001 μF Disc 3 KV GP	072-223
C30	Variable, Neutralizing	074-084
C31	.001 μF Foil Mica 2.5 KV, Tol. ±20%	087-070
C32	Variable, Plate Tuning	074-047
C33	33 μμF Silver Mica 2.5 KV, Tol. ±20%	088-187
C34	33 μμF Silver Mica 2.5 KV, Tol. ±20%	088-187
C35	33 μμF Silver Mica 2.5 KV, Tol. ±20%	088-187
C36	300 μμF Silver Mica, Tol. ±10%	088-185
C37	2-Section Variable, Output Load	074-119
C38	5 μμF Disc 3 KV, Tol. ±20%	074-224
C39	2 μμF Tubular, Tol. ±10%	071-003
C40	50 μF Electrolytic @ 25 Volt	073-058
C41	.01 μF Disc 300 V. GP	072-169
C42	.01 μF Disc 300 V. GP	072-169
C43	.01 μF Disc 500 V. GP	072-173
C44	47 μμF Disc GPSL, Tol. ±3%	072-220
C45	39 μμF Disc GPSL, Tol. ±3%	072-221
C46A-B	2-Section Variable	074-126
C47	22 μμF Tubular N750, Tol. ±5%	084-238
C48	3 μμF Tubular, Tol. ±5%	071-069
C49	5 μμF Tubular NPO, Tol. ±.5 μμF	084-117
C50	10 μμF Tubular GPSL, Tol. ±10%	071-013
C51	47 μμF Disc GPSL, Tol. ±3%	072-220
C52	22 μμF Tubular N750, Tol. ±5%	084-238
C53	68 μμF Disc GPSL, Tol. ±5%	072-219
C54	56 μμF Disc GPSL, Tol. ±5%	072-218
C55	.01 μF Disc 500 V. GP	072-173
C56	2.2 μμF Tubular NPO, Tol. ±.5 μμF	084-083
C57	470 μμF Silver Mica, Tol. ±5%	088-016
C58	100 μμF Silver Mica, Tol. ±5%	088-017
C59	22 μμF Tubular N080, Tol. ±5%	084-252
C60	160 μμF Silver Mica, Tol. ±1%	088-008
C61	39 μμF Tubular N330, Tol. ±3%	084-253
C62	Variable, Dial Set	074-112
C63	5-25 μμF Rotary Trimmer NPO	089-032
C64	18 μμF Silver Mica, Tol. ±1%	088-197
C65	160 μμF Silver Mica, Tol. ±1%	088-008
C66	220 μμF Silver Mica, Tol. ±1%	088-190
C67	120 μμF Silver Mica, Tol. ±1%	088-191
C68	82 μμF Silver Mica, Tol. ±1%	088-001
C70	.01 μF Disc 500 V. GP	072-173
C71	.01 μF Disc 300 V. GP	072-169
C72	22 μμF Disc N470, Tol. ±5%	084-243
C73	100 μμF Tubular GP, Tol. ±10%	071-013
C74	.01 μF Disc 500 V. GP	072-173
C75	.01 μF Disc 500 V. GP	072-173
C76	.01 μF Disc 300 V. GP	072-169
C77	.01 μF Disc 500 V. GP	072-173
C78	.01 μF Disc 500 V. GP	072-173
C79	.01 μF Disc 500 V. GP	072-173
C80	.01 μF Disc 500 V. GP	072-173
C81	.1 μF Molded Tubular 200 V., Tol. ±20%	085-002
C82	.01 μF Disc 300 V. GP	072-169
C83	100 μμF Disc GP, Tol. ±10%	071-013
C84	.001 μF Disc GP	072-108
C85	1.5 μμF Tubular NPO, Tol. ±.5 μμF	084-025
C86	100 μμF Tubular GP, Tol. ±10%	071-013
C87	.1 μF Molded Tubular 400 V., Tol. ±20%	085-005
C88	470 μμF Disc GP, Tol. ±20%	072-213
C89	25 μF Electrolytic 25 V.	073-127
C90	.01 μF Disc 500 V. GP	072-173
C91	470 μμF Disc GP, Tol. ±20%	072-213
C92	.001 μF Disc GP	072-108
C93	.001 μF Disc GP	072-108
C94	100 μμF Tubular GP, Tol. ±20%	072-213
C95	.01 μF Disc 300 V. GP	072-169
C96	.1 μF Molded Tubular 400 V., Tol. ±20%	085-005
C97	.001 μF Disc GP	072-108
C98	25 μF Electrolytic 25 V.	073-127
C99	.0022 μF Molded Tubular, 3 KV, Tol. ±20%	085-095
C100	Variable, BFO Pitch	074-115
C101	.01 μF Disc, 500 V., GP	072-173
C102	.001 ±20% Disc, Ceramic	072-108
C103	500 μμF DM15 ±5%	088-081
C104	82 μμF DM15 ±5%	088-002
C105	100 μμF N750 ±120 Tol. .100 μμF	084-271
C106	5 μμF NPO	084-117
C107	5 μμF NPO	084-117
C108	5 μμF NPO	084-117
C109	.001 μμF ±20% Disc, Ceramic	072-108
C110	.01 μF Disc @ 500 V. GP	072-173

RESISTORS

(All resistors 1/2 watt composition Tol.±10% unless otherwise specified)

Schematic No.	Description	Gonset Part No.
R1	27 Ω	042-270
R2	33 KΩ	042-333
R3	3500 Ω 7 watt Wire wound, Tol.±20%	049-001
R4	10 KΩ 1 watt	043-103
R5	270 KΩ	042-274
R6	68 KΩ	042-683
R7	22 KΩ 1 watt	043-223
R8	4700 Ω 1 watt	043-472
R9	47 Ω	042-470
R10	15 KΩ	042-153
R11	1000 Ω	042-102
R12	27 KΩ 1 watt	043-273
R13	220 Ω 2 watt (part of L13)	044-221
R15	47 KΩ 2 watt	044-473
R16	22 Ω 1 watt, Tol. ±5%	047-220
R17	3.9 KΩ 1/2 watt, Tol. ±5%	046-392
R18	470 KΩ	042-474
R19	100 KΩ	042-104
R20	27 Ω	042-270
R21	10 KΩ	042-103
R22	22 KΩ	042-223
R23	33 KΩ	042-333
R24	7000 Ω 10 watt Wire wound, Tol. ±10%	049-083
R25	1000 Ω	042-102
R26	100 KΩ	042-104
R27	4.7 meg. Ω	042-475
R28	100 KΩ	042-104
R29	22 KΩ	042-223
R30	10 Ω	042-100
R31	4700 Ω	042-472
R32	270 Ω	042-271
R33	47 KΩ 1 watt	043-473
R34	10 KΩ	042-103
R35	270 Ω	042-271
R36	100 KΩ	042-104
R37	27 KΩ	042-273
R38A	10 KΩ R38B 1 meg.Ω Dual Potentiometer	052-101
R39	68 KΩ 2 watt	044-683
R40	47 KΩ 1 watt	043-473
R41	10 KΩ	042-103
R42	47 KΩ	042-473
R43	270 KΩ	042-274
R44	270 KΩ	042-274
R45	2700 Ω	042-272
R46	680 KΩ	042-684
R47	47 KΩ	042-473
R48	27 KΩ	042-273
R49	27 KΩ	042-273
R50	470 KΩ	042-474
R51	2700 Ω	042-272
R52	250 KΩ Potentiometer (Mike Gain)	052-102
R53	47 KΩ	042-473
R54	680 KΩ	042-684
R55	2.2 meg.Ω	042-225
R56	270 KΩ	042-274
R57	470 KΩ	042-474
R58	470 Ω 1 watt	043-471
R59	27 KΩ	042-273
R60	100 KΩ	042-104
R61	15 Ω 1/2 watt Wire wound, Tol. ±5%	058-150
R62	15 Ω 1/2 watt Wire wound, Tol. ±5%	058-150
R63	22 Ω 2 watt	044-220
R64	2700 Ω	042-272
R65	68 KΩ 2 watt	044-683
R66	20 KΩ Potentiometer (Meter Zero)	052-103
R67	10 KΩ	042-103
R68	10 Ω	042-100
R69	10 Ω	042-100
R70	220 K 1/2 watt ±10%	042-224
R71	100 ohm 1/2 watt ±10%	042-010
R72	100 K 1/2 watt ±10% Composition	042-104
R73	100 K 1/2 watt ±10% Composition	042-104
R74	100 K 1/2 watt ±10% Composition	042-104
R75	100 K 1/2 watt ±10% Composition	042-104
R76	220 K 1/2 watt ±10% Composition	042-224
R77	2.2 K 1/2 watt ±10% Composition	042-222
R78	22 KΩ 2 watt	044-223
R79	47 KΩ 2 watt	044-473
L1	VFO Coil, 1.75 Mc. - 2 Mc.	012-464
L2	VFO Coil, 7 Mc. - 7.425 Mc.	012-465
L3	Oscillator Plate Coil	012-449
L4	Oscillator Plate Coil	012-449
L5	Oscillator Plate Coil	012-450
L7	Final Grid Coil	012-452
L8	Final Grid Coil	012-453
L9	Final Grid Coil	012-454
L10	Final Grid Coil	012-454
L11	Final Grid Coil	012-455
L12	Final Grid Coil	012-472
L13	Parasitic Coil (wound on R13)	026-011
L14	H-F Final Plate Coil	012-471
L15	L-F Final Plate Coil	012-504
L16	Receiver Mixer Coil 80-M	012-452
L17	Receiver Mixer Coil 40-M	012-449
L18	Receiver Mixer Coil 20-M	012-456
L19	Receiver Mixer Coil 15-M	012-451
L20	Receiver Mixer Coil 10-M	012-451
L21	Receiver Mixer Coil 6-M	012-457
L22	Receiver Oscillator Coil 80-M	012-462
L23	Receiver Oscillator Coil 40-M	012-463
L24	Receiver Oscillator Coil 20-M	012-458
L25	Receiver Oscillator Coil 15-M	012-459
L26	Receiver Oscillator Coil 10-M	012-460
L27	Receiver Oscillator Coil 6-M	012-461
T1	I-F Transformer, 2065 Kc.	014-008
T2	Oscillator Coil, 2327 Kc.	014-059
T3	I-F Transformer, 262 Kc.	014-080
T4	I-F Transformer, 262 Kc.	014-080
T5	I-F Transformer, 262 Kc.	014-080
T6	BFO Transformer, 262 Kc.	014-058
T7	Audio Driver Transformer	273-013
T8	Modulation Transformer	273-014

GONSET

INSTRUCTION MANUAL

G-76 MULTI BAND TRANSCEIVER MODEL 3338
G-76 AC POWER SUPPLY MODEL 3349
G-76 DC POWER SUPPLY MODEL 3350

GONSET DIVISION / YOUNG SPRING & WIRE CORPORATION

INSTRUCTION MANUAL
G-76 MULTI BAND TRANSCEIVER MODEL 3338
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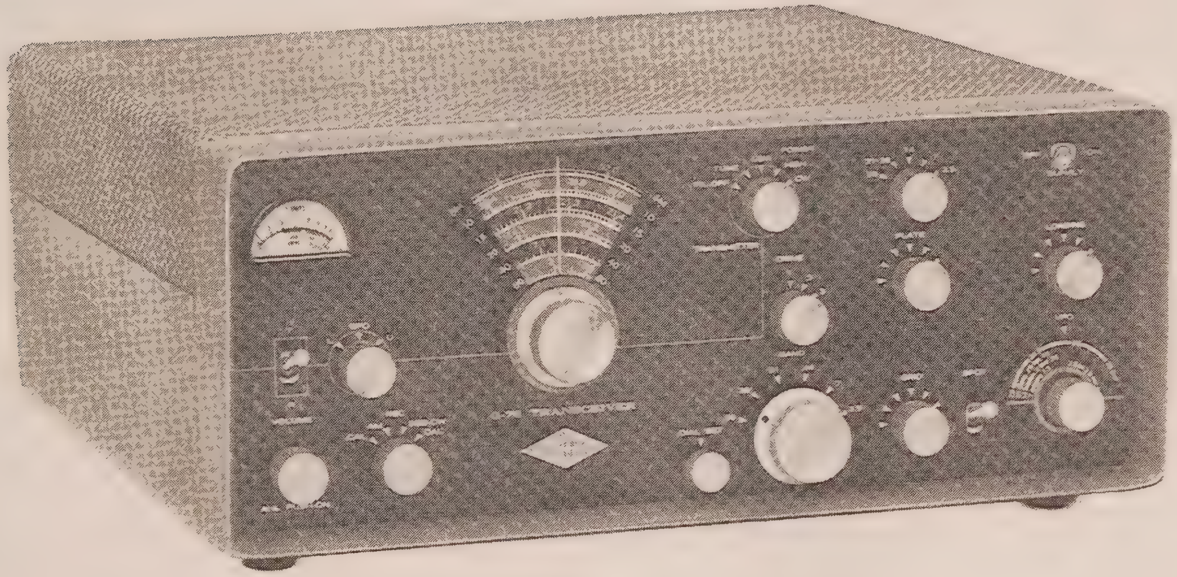

GONSET DIVISION

Young Spring & Wire Corporation

801 South Main Street

Burbank, California

MADE IN U.S.A.

Warranty Policy

The Gonset Division warrants its equipment, when properly registered, against defects in workmanship, materials, and construction under normal use and service for a period of 90 days from the date of original purchase. Under this warranty our obligation is limited to repairing or replacing any defective parts.

This warranty does not apply to any equipment which has been tampered with in any way, or which has been misused or damaged by accident or negligence, or which has had the serial number removed, altered or effaced.

On equipment employing a vibrator, all components are covered by the warranty with the exception of the vibrator itself.

This warranty is valid only when the enclosed card is properly filled in and returned within ten days from purchase date.

The Gonset Division reserves the right to discontinue or change, at any time, specifications, design or prices without notice and without incurring obligations.

DO NOT SEND EQUIPMENT TO THE FACTORY WITHOUT FIRST SECURING AUTHORIZATION TO DO SO.

THIS WARRANTY DOES NOT INCLUDE TRANSPORTATION COSTS TO AND FROM THE FACTORY.

GONSET DIVISION
YOUNG SPRING AND WIRE CORPORATION
801 SOUTH MAIN STREET, BURBANK, CALIFORNIA

DANGER, HIGH VOLTAGE

The voltage employed in this unit are sufficient to cause fatel shock under some conditions. Do not attempt to work on the unit out of the cabinet unless you are qualified to the extent of knowing what precautions to observe with regard to avoiding electrical shock.

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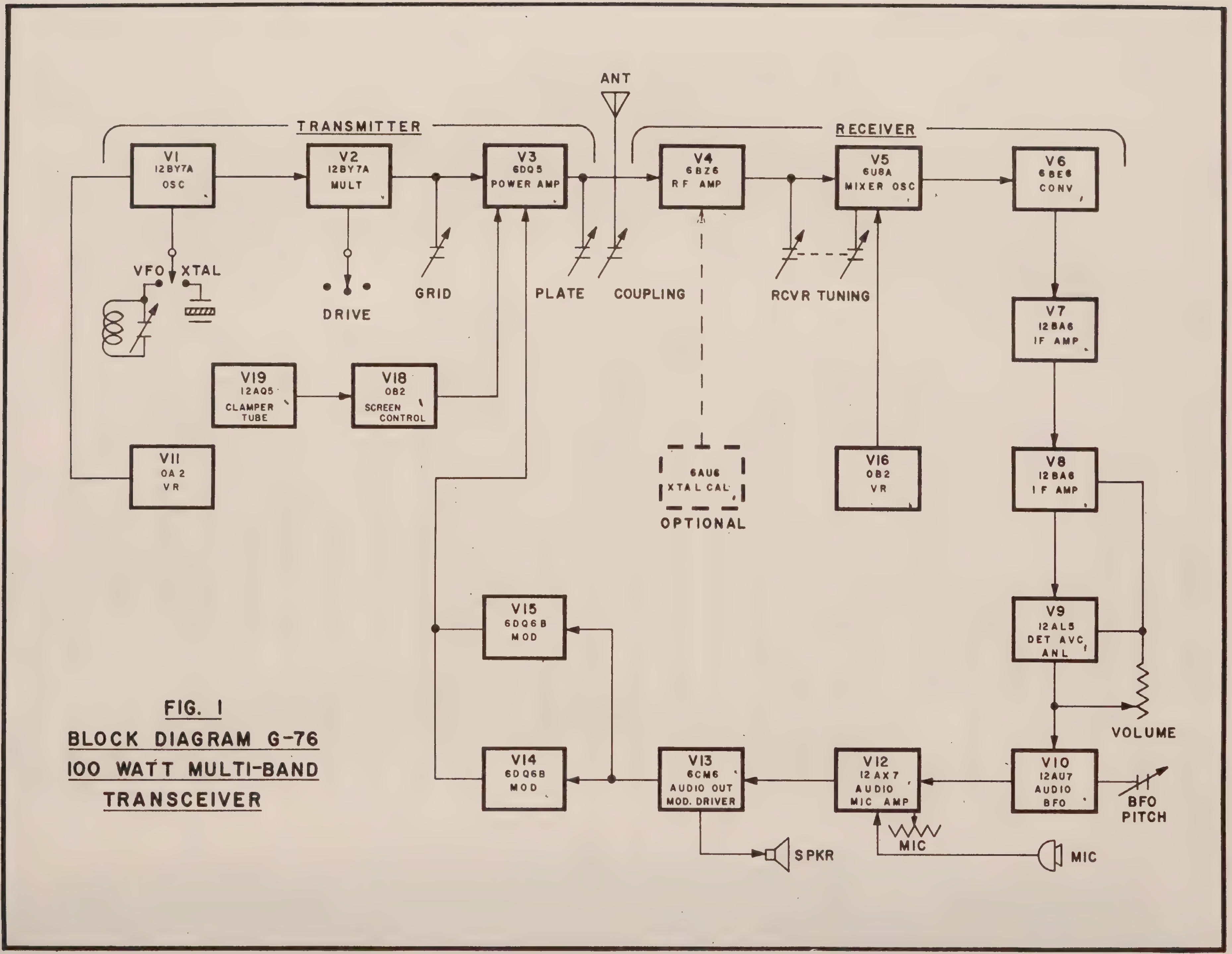


FIG. 1

BLOCK DIAGRAM G-76

100 WATT MULTI-BAND

TRANSCEIVER

505-254
A CHG.

RECEIVER SPECIFICATIONS

Frequency Ranges: Band 1 -- 3.5 - 4.0 megacycles

Band 2 -- 7.0 - 7.3 megacycles

Band 3 -- 14.0 -14.35 megacycles

Band 4 -- 21.0 -21.45 megacycles

Band 5 -- 28.0 -29.7 megacycles

Band 6 -- 50.0 -54.0 megacycles

Sensitivity: Approximately 1 μV at 50 Ω for 6 db signal-plus-noise to noise ratio.

Selectivity: 3 Kc. bandwidth at 6 db down, nominal.
14 Kc. or less, at 60 db down.

Image Rejection:

Typical Figures:

Signal Input	Image
3.5 Mc.	70 db down
7 Mc.	57 db
14 Mc.	58 db
21 Mc.	53 db
28 Mc.	48 db
50 Mc.	30 db

Stability:	Oscillators (both transmitter and receiver) are temperature compensated for negligible frequency drift. Oscillator circuit permits exceptionally wide excursions in power supply voltage, both plate supply and heater supply, with negligible frequency shift. As much as 30% decrease, or 50% increase, may be tolerated even in single sideband reception. This feature is, of course, most important in mobile service. Mechanical stability is excellent.
Antenna Input:	50 ohms unbalanced (coax cable).
Intermediate Frequencies:	First I.F. . . . . 2065 Kc. Second I.F. . . . . 262 Kc.
Audio Output:	2.5 Watts into 3.2 ohms.
Noise Limiter:	Automatic type, switched in or out with front panel controls.
Accessories:	100 Kc. calibrator (Gonset Model 3269). Microphone, High Impedance Ceramic Type (Gonset #3240)

TRANSMITTER SPECIFICATIONS

Frequency Range:	3.5, 7, 14, 21, 28 and 50 Mc. amateur bands.
V F O:	Planetary vernier tuning, choice of crystal control when desired. VFO does not function on 50 Mc. band (8334-9000 Kc. crystal required for this band.) For other bands, crystal frequencies are as follows: 80M 1.75 or 3.5 Mc. 40M 1.75, 3.5 or 7 Mc. 20M 3.5 or 7 Mc. 15M 7-7.15 Mc. 10M 7-7.425 Mc. 6M 8.334-9 Mc.
Input Power:	6DQ5 Power Amplifier 100 Watts, amplitude modulated phone 120 Watts, CW.
Output Impedance:	50 ohms unbalanced (coax cable).

Power Requirements: (Gonset G-76 A.C. Supply - Model 3349).
(Gonset G-76 D.C. Supply - Model 3350).

(1) 12.6 volts A.C. or D.C. at 4.67 amperes. This reduces to 2.17 amps. when the transmitter function switch is set on "FIL OFF", thus allowing for reception only with minimum battery drain.

(NOTE: Transmitter oscillator tube is not turned off in this position.)

(2) 225-275 volts D.C. at 90 MA.

(3) 500-625 volts D.C. at 200 MA., resting current, 330 MA. on voice peaks. (250 MA. average drain on phone.

Dimensions: 12-5/8" wide, 5-1/8" high, 10-1/2" deep.

Shipping Weight: 21 pounds

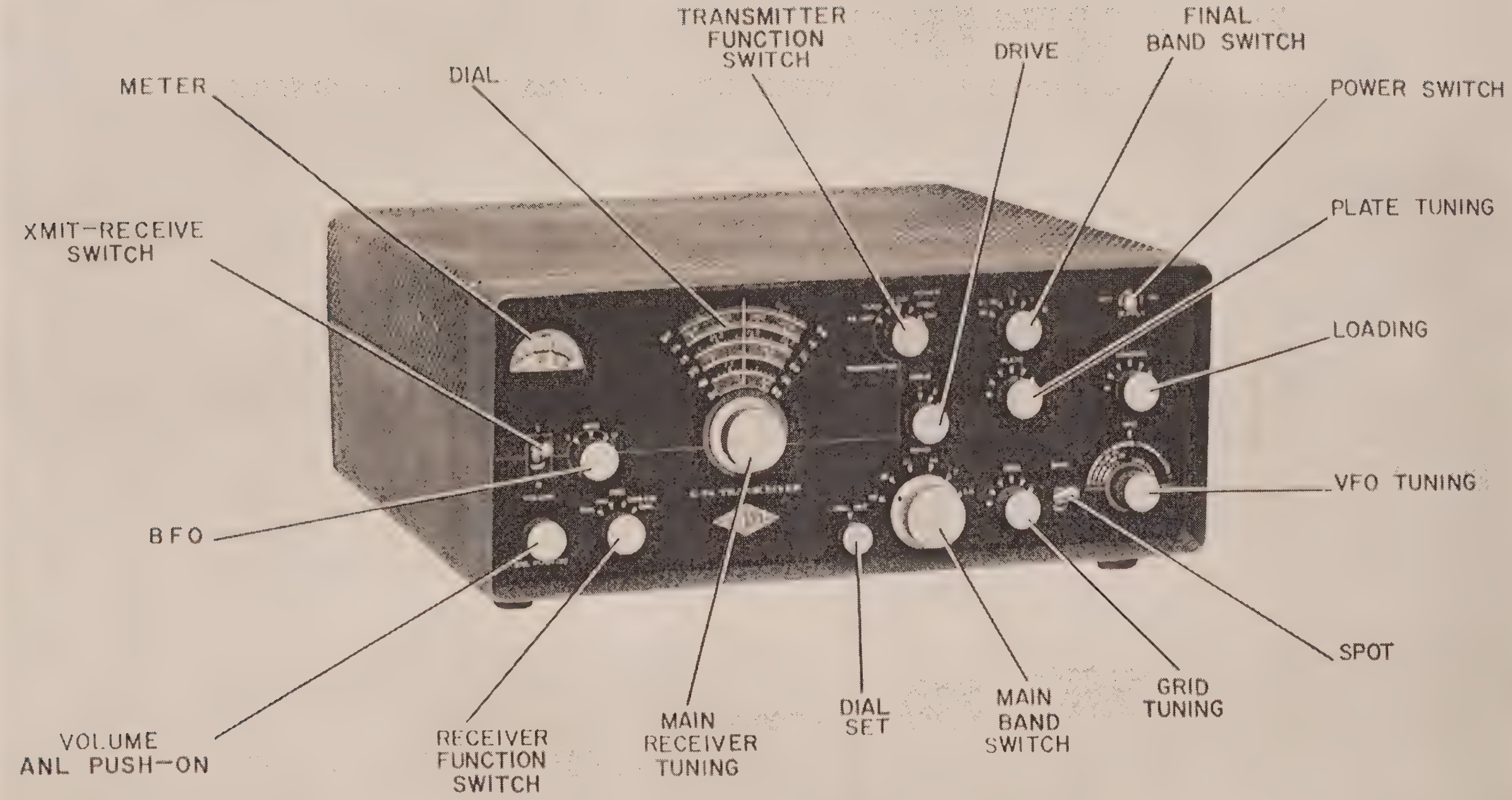


FIG. 2 FRONT PANEL CONTROLS

RECEIVER CONTROLS

Tuning Dial: 8:1 Planetary vernier. Dial scales printed on rotating disc.

Volume Control: Functions as an audio gain control in A.M. reception and R.F. gain, or sensitivity control, in SSB or CW reception. The push-pull switch on this control switches the automatic noise limiter on (in) and off (out).

Function Control:

Position 1	AM	Cal ON
Position 2	AM	Cal OFF
Position 3	SSB-CW	Cal OFF
Position 4	SSB-CW	Cal ON

NOTE: The 100 Kc. calibrator (Gonset Model 3269) is a plug-in accessory available as optional equipment. It can be switched on in both A.M. and SSB-CW positions.

BFO Pitch Control: Marked "L" and "U" to indicate approximately the positions for lower and upper sideband reception.

Dial Set: For minor correction of dial calibration.

Bandswitch: 6 Ranges: 3.5-4 Mc., 7-7.3 Mc., 14-14.35 Mc., 21-21.75 Mc., 28-29.7 Mc., and 50-54 Mc.

NOTE: This control also switches bands in the transmitter.

Bandswitch #2: This control selects the frequency range of the pi matching system, which functions as receiver input circuit, and transmitter output circuit. It has 5 ranges, marked "3.5, 7, 14, 21-28, 50". Note that the 21 and 28 Mc. bands are included in the same position.

TRANSMITTER CONTROLS

Function Control:	
Position 1	FIL.OFF reduces heater drain when receiving only.
Position 2	Tune. Voltage applied only to oscillator. Mult. meter registers grid MA. to final amplifier.
Position 3	Low Power. Plate and loading should be adjusted inthis position to load to 2 or 3 on meter scale. Approximately 20 watts input to final A°M° phone.
Position 4	High power. Full HV applied to final and modulator. Approximately 100 watts A.M.
Position 5	CW. Voltage removed from modulator and modulation transformer shorted out. Approximately 120 watts input. NOTE: Meter reads total cathode current to final amplifier in Positions 4 and 5.
V F O:	Driven by a planetary drive on 3.5, 7, 14, 21 and 28 Mc. ranges. Not operative in the 50 Mc. band. Two sockets are provided for 6- meter crystals or external VFO.
Spot:	Toggle switch turns VFO on for monitoring frequency in receiver. Also functions with crystals when they are used.
Grid:	With function switch in "tune" position, this control is adjusted for maximum grid current, as indicated by the tuning meter.
Drive:	3 positions, marked "1-2-3", indicating low, medium and high respectively. After tuning "grid" for maximum grid current, the drive control is set to the position which falls within the grid current range on the meter scale.
Plate:	Tunes final plate circuit. With the function switch in low or high power, or CW position, tune plate control for dip in meter indication.
Loading:	Output capacitor of pi matching system. Adjust for increase in TUNE position for meter reading of 2 or 3 on the meter scale. adjust for final cathode current of 150 MA max, "plate" tuned for dip, function switch in high power position.
Main Supply Switch:	Heavy-duty toggle turns supply on or off.

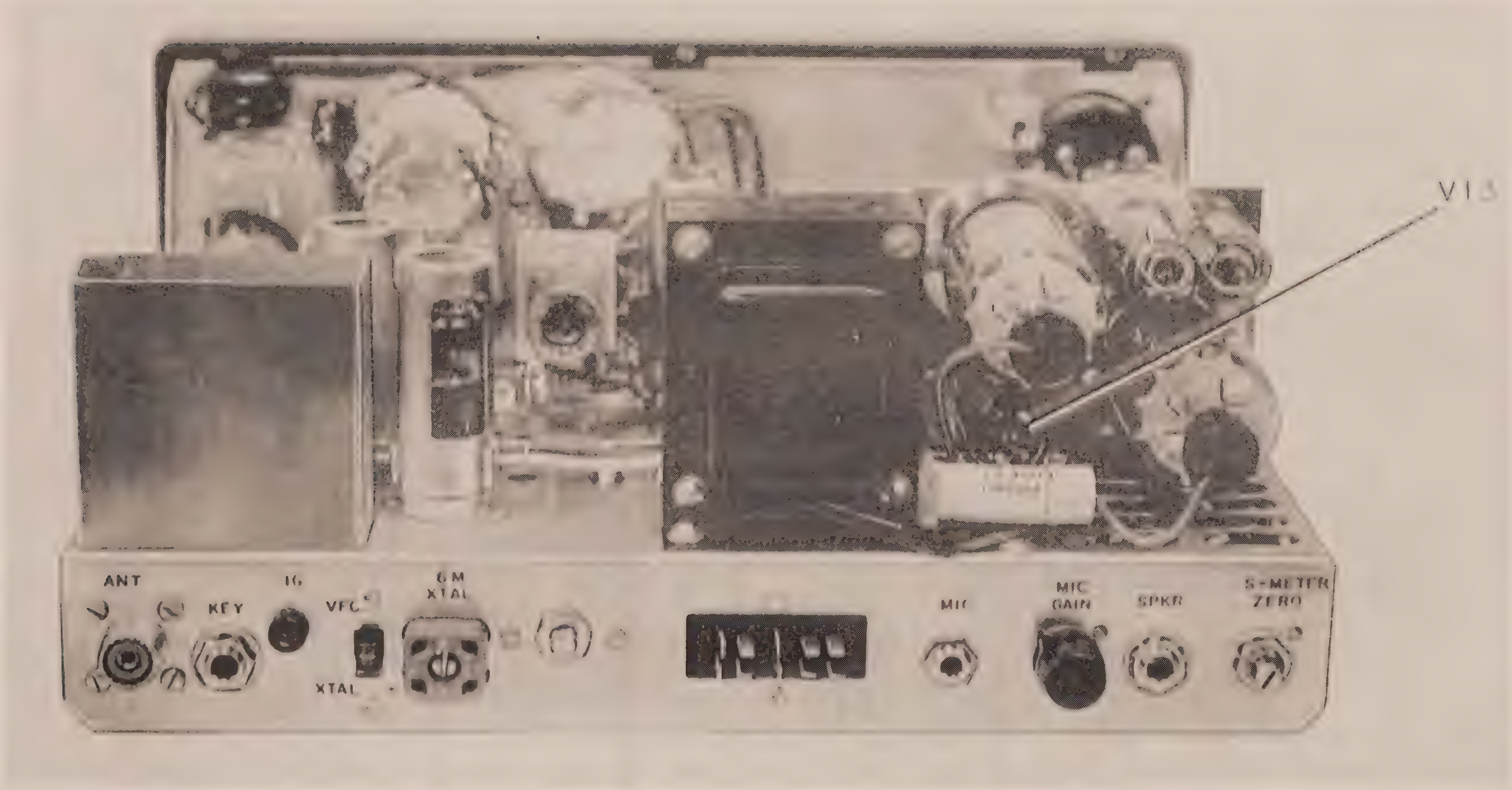


FIG. 3 REAR VIEW

REAR CONTROLS

CW Key Jack:	Driver Cathode Keying
Test Jack:	Final amplifier grid current. For metering grid current when final is operating. (Grid current is metered with panel meter when function switch is in "tune" position, but not when final is actually operating.)
VFO/Crystal Switch:	For switching from VFO to crystal operation.
Crystal Socket:	Dual type for low frequency bands and 6-meter band. (VFO does not operate in 6-meter, 50 Mc. band.) NOTE: Two crystals may be inserted in this dual socket for 6 meters, and selection between them made with the VFO crystal switch.
Power Connector Plug	
Microphone Jack	
Microphone Gain Control	
Speaker Jack	
S Meter Zero Adjust	
Antenna Connector Jack	UHF, coax type SO-239.

INSTALLATION

After unpacking the Gonset G-76 Transceiver, check to make sure all tubes are in place. Check all controls for normal movement. Turn main power switch to OFF position.

For fixed-station operation, connect the Gonset G-76 A.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting A.C. cord to power line.

For mobile operation, connect the Gonset G-76 D.C. power supply by:

(1) Connecting Plug P1 at back of chassis.

(2) Connecting positive and negative terminals of power supply to 13.4 volt D.C. source.

(3) Connecting 3.2 ohm speaker to speaker jack at back of chassis.

High voltage to final amplifier and modulator does not appear anywhere in the transceiver proper until the T/R relays close. A relay built into the A.C. power supply, and the D.C. power supply, disconnects the H.V. lead from the supply and grounds it. Thus, when in receive position, the highest voltage present in the transceiver is the nominal 275 volts D.C. from the medium voltage supply. The protective H.V. relay in the power supply is energized when the T/R relays in the transceiver close.

The T/R relay will not operate when the transmitter function switch is in the "FIL OFF" position. In this position, heater current to the modulators and final amplifier is disconnected, conserving battery power when receiving only, and also preventing accidental tripping of the T/R button of the microphone.

The T/R relays will not operate when the VFO "SPOT" switch is on. The transmitter will not operate in the "SPOT" position due to lack of excitation, and final amplifier tube failure could occur before it is realized that the VFO switch was unintentionally left on the "SPOT" position. With the built-in safety feature, the T/R relays will not function until the VFO switch is down in the operate position.

The A.C. power supply includes a high voltage slo-blo fuse to protect it from high voltage short circuits, as well as a fused line plug.

RECEIVER OPERATION

Amplitude Modulated Signals:

(A) Supply Switch................On.

(B) T/R Switch..................Receive position.

(C) Function Control.............Position 2.

(D) ANL.........................OFF or ON, as required.

(E) Bandswitch #1................Set to desired range.

(F) Bandswitch #2................Set to desired range.

(G) Tuning Dial..................Adjust for maximum "S" meter reading on desired signal.

(H) Plate and Loading Adjustment..........When using the G-76 for receiving only, the Pi network should be adjusted for maximum "S" meter reading on a signal. IMPORTANT: See Note (4) Operating Notes.

(I) Volume Control...............Set to desired volume level.

Single Sideband Signals:

(A) Supply Switch................On.

(B) T/R Switch...... ....Receive position.

(C) Function Control.............Position 3.

(D) Bandswitch #1................Set to desired range

(E) Bandswitch #2................Set to desired range.

(F) BFO Frequency................Set to "U" for upper sideband, or "L" for lower sideband.

(G) Tuning Dial..................Adjust for most natural voice quality.

(H) Volume Control...............Set to desired volume level.

CW Code Signals:

(A) Supply Switch................On.

(B) T/R Switch..................Receive position.

(C) Function Control.............Position 3.

(D) Bandswitch #1................Set to desired range.

(E) Bandswitch #2................Set to desired range.

(F)	BFO Frequency	Set to either "U" or "L" mark.
(G)	Tuning Control	Adjust for maximum loudness of desired CW signal. Then go back to the BFO control and set it for desired pitch. This adjustment need only be made when it is found desirable to change pitch.
(H)	Volume Control	Set to desired volume level.

OPERATING NOTES:

(1) To check tuning dial calibration accuracy, switch the calibrator on (receiver function control, Positions 1 or 4), and locate the nearest 100 Kc. marker signal on the dial. Ordinarily the dial set control will set very close to 12 o'clock (straight up) when the tuning dial is reading correctly. With long-term aging effects, humidity, etc., dial accuracy may gradually shift, requiring compensation with the dial set control to varying degrees on each band. Eventually, the oscillator adjustments should be reset to restore original dial accuracy (See alignment procedure). These effects are generally spread over many months of operation. Note that the 100 Kc. calibrator (Gonset Model 3269) is an optional plug-in accessory and must be purchased as an extra.

(2) If it is not known which sideband a station is transmitting, it may be necessary to first try one side, and then the other. It will be found that when the BFO is set to the wrong side, the signal cannot be tuned to an understandable point. In such a case, move the BFO control to the other side, and adjust the tuning dial again until a natural voice is heard.

(3) Pi input circuit (plate tuning and loading) may be adjusted for maximum sensitivity. However, these adjustments are mose effectively made while adjusting the transmitter.

(4) Whenever the Pi controls have been adjusted for transmitting on a particular band, DO NOT READJUST WHEN RECEIVING. These controls are fairly broad for receiving, and each amateur band may be tuned over the entire range without readjustment. For transmitting these controls are quite sharp and critical. Thus, once they are adjusted for transmit, they should be left along while receiving.

TRANSMITTER OPERATION

CAUTION: The following steps must be followed in sequence to prevent damage to the final amplifier.

Amplitude Modulated Signals:

(A) Power Switch.............On.

(B) Tune receiver to desired frequency.

(C) Spot Switch..............Spot position and adjust VFO for maximum meter indication.

(D) Spot Switch..............Off.

(E) Loading Control..........Minimum or CCW.

(F) Transmitter Function Switch..."Tune" Position.

(G) Drive Control..............Position 1 on 80, 40 & 20 meters.
Position 2 or 3 on 10, 15 & 6 meters.

(H) T/R Switch.................Transmit position.

(I) Grid Tuning................Maximum meter indication.

(J) Drive Control..............Set to position corresponding to IG range on meter scale. (NOTE: Minimum of 1/2 to 2 miles as measured at IG meter jack on rear of unit).

(K) Transmitter Function Switch...Low Power

(L) Plate Tuning...............Quickly adjust for sharp dip in meter reading.

(M) Plate Loading..............Increase gradually while adjusting plate control for meter dip until meter reads between 2 and 3.

(N) T/R Switch.................Off

(O) T/R Function Switch........High Power

(P) T/R Switch.................ON

(Q) Loading Control............Increase gradually while adjusting plate control for meter dip, until meter reads 150 MA max.

Caution

Do not change function switch from low to high or high to low power with T/R switch in "ON" position.

CW Signals:

(A) Follow above steps for amplitude modulated signals.

(B) Transmitter Function Switch.....CW position.

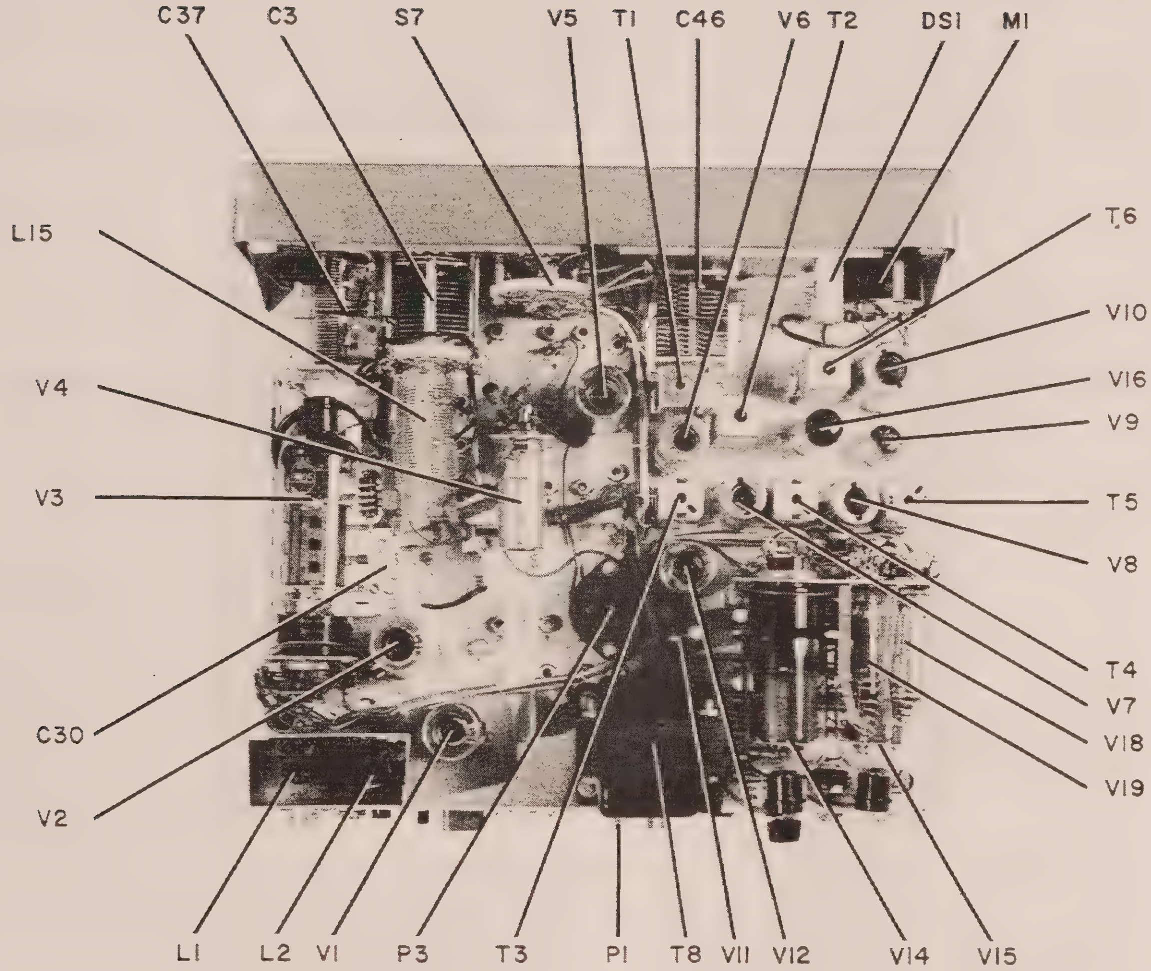


FIG. 4 CHASSIS, TOP VIEW

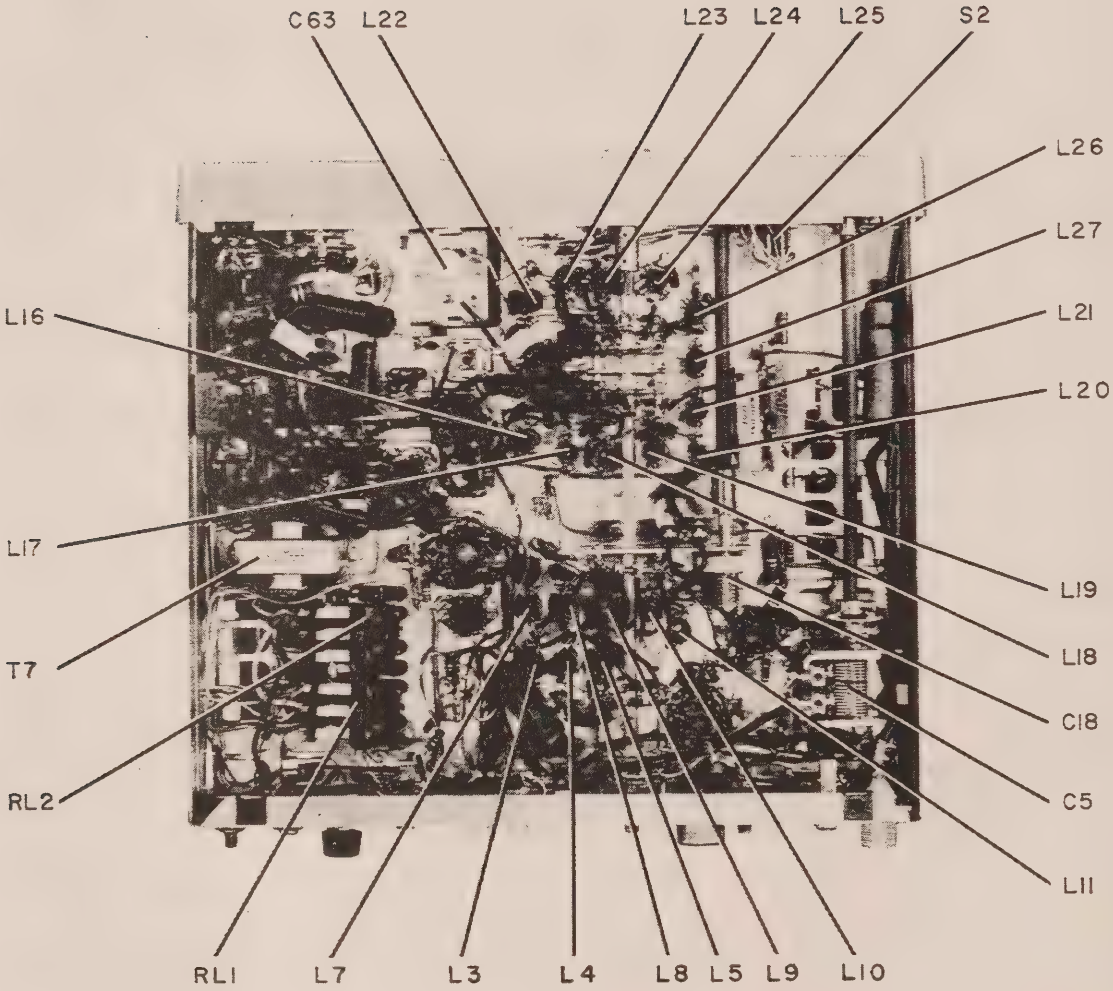


FIG. 5 CHASSIS, BOTTOM VIEW

RECEIVER ALIGNMENT

(Trans. Function Switch at "FIL.OFF")

Step #1

262 Kc. I.F. (1) Connect Signal Generator to Pin 7 of 6BE6 (V6). Use blocking capacitor to protect generator. Approximately .01 mfd. Peak I.F. transformers, T3, T4 and T5 top and bottom, for maximum AVC. Receiver function switch in "AM" position.

(2) After peaking T3, T4 and T5, switch receiver function to "CW-SSB". Set BFO control to 12 o'clock. Adjust T6 (top adjust.only) for zero beat with signal generator. (Generator still set to 262 Kc.)

Step #2

2065 Kc. I.F. Receiver Function set to "AM".

(1) Connect Signal Generator to Pin 2 of 6U8A (V5). Set generator frequency to exactly 2065 Kc. Adjust 2327 Kc. Oscillator (T2) until signal appears.

(2) With Signal Generator set to 2065 Kc., adjust transformer, T1, Top and Bottom, for peak AVC.

Step #3

50 Mc. band alignment...Connect Signal Generator to antenna connector on rear of chassis. Bandswitches both set to "50 Mc." position. Receiver function selector set to "AM" position. Dial set control at 12 o'clock. Set receiver tuning dial to 50 Mc. position. Set signal generator to exactly 50 Mc. (Or, preferably, use a crystal-controlled signal at 50 Mc., or some sub-multiple of 50 Mc.)

(1) Adjust receiver oscillator coil, L27, until signal tunes in at 50 Mc. point on tuning dial.

(2) Set signal generator to exactly 54 Mc. and check high frequency end of tuning dial. Signal should appear at 54 Mc. mark. If it does not, adjust trimmer, C63, until it does.

(3) Go back and check 50 Mc. By adjusting coil, L27, at 50 Mc., and trimmer, C63, at 54 Mc., repeat until 50 and 54 Mc. appear at their respective markings on the dial.

(4) Adjust coil, L21, for maximum AVC voltage.

(5) Recheck 50 and 54 Mc. points for possible interaction from L21 adjustment.

(6) Pi input circuit (plate tuning and loading) may be peaked for maximum AVC, although this is not essential unless sensitivity measurements are being conducted.

Step #4

Alignment, HF bands...After the 50 Mc. VHF band has been properly aligned, as per Step 3, the other bands may be aligned. Following the accompanying chart, adjust the oscillator and mixer coils at the given frequencies.

Band	Sign. Gen. Freq.	Oscillator Coil	Mixer Coil
28 Mc.	28.7	L26	L20
21	21.3	L25	L19
14	14.2	L24	L18
7	7.2	L23	L17
3.5	3.8	L22	L16

Adjust the oscillator coils until the generator signal appears at the correct dial position. Then adjust the mixer coil for maximum signal. Finally, recheck the oscillator setting for possible interaction from mixer tuning.

Note that the 5 HF bands have only one oscillator adjustment. Trimmer C63 is to be used only for tracking the 50-54 Mc. band, after which the HF bands should track closely. If any of the HF bands do not track closely, it means that capacity tolerances are off, and a capacitor change may be necessary.

The Pi input circuit need not be tuned for peak signal when adjusting the oscillator or mixer. For sensitivity measurements, however, the Pi network should be set to the proper band, and adjusted for maximum signal.

Sensitivity of the G-76 receiver section will measure approximately 6 db signal-plus-noise to noise ratio with an input of 1 microvolt at 50 ohms.

Image Rejection, typical figures:

60 db at 3.5 Mc.
60 db at 7 Mc.
50 db at 14 Mc.
45 db at 21 Mc.
40 db at 28 Mc.
30 db at 50 Mc

The primary image will occur at a frequency 4.13 Mc. higher than the desired signal, except in the 50-54 Mc. band, where the image will occur 4.13 Mc. below the signal.

Selectivity: 3 Kc. at 6 db down, nominal. Less than 14 Kc. wide at 60 db down.

TRANSMITTER ALIGNMENT

Step #1 - VFO Adjustment

(1) Set bandswitches to 7 Mc. and receiver function switch to A.M. Set receiver tuning dial to 7 Mc. Set VFO crystal switch on rear of chassis to VFO position. Throw VFO spot switch up to "SPOT" position. Set VFO control to 7 Mc. and adjust L1, top of rear - right shield can, until a strong signal is received. This adjustment sets the VFO frequency for the 3.5-4 and 7-7.3 Mc. bands.

(2) Set bandswitches to 14 Mc., receiver function to A.M., and receiver tuning dial to 14 Mc. Set VFO control dial to 14 Mc. and throw switch to "SPOT" position. Adjust L2, top of shield can next to L1, until a signal is received. This adjustment sets the VFO for the 14-14.35, 21-21.45 and 28-29.7 Mc. bands.

NOTE: The 50 Mc. band does not use the VFO, but requires a crystal of 8.334 to 9 Mc. frequency inserted in the upper crystal position at the back of the chassis. Crystals may be used on the lower HF bands by inserting them in the lower crystal position, and switching the rear slide switch down to the "Xtal" position.

Step #2 - Oscillator Plate and Multiplier Adjustment

(1) 80 Meters...set transmitter function switch to "TUNE" position, "SPOT" switch down, bandswitches at 3.5 Mc. position, and VFO dial at 7 Mc. Set "DRIVE" control at Position #1. Throw T/R toggle switch up to the transmit position. In the tune position, only the 12BY7's in the oscillator and multiplier stages are functioning, so there is no concern for the final amp. or modulator at this time. Adjust the "Grid" tuning for maximum meter indication. At 4 Mc. the grid tuning capacitor should be nearly open. The adjustable core of L7 should be left at a position where both 3.5 and 4 Mc. can be peaked with the grid tuning dial.

(2) 40 Meters...set bandswitches to 7 Mc. position, and VFO dial to 7 Mc. with T/R switch in "T" position, adjust "Grid" tuning for maximum meter reading. This should occur with the grid tuning capacitor about 80% meshed. Adjust Coil L8 for this condition. Now, set the VFO to approximately 7.2 Mc. and adjust Coil L3 for maximum meter reading. L3 is the oscillator plate coil.

(3) 20 Meters...set bandswitches to 14 Mc. and VFO dial to 14 Mc. With the T/R switch up in the "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 80% meshed. Coil L9, associated with this band, is not adjustable. This test merely serves as a check on L9 and its associated capacitor C21.

(4) 15 Meters...set bandswitches to 21 Mc. and VFO dial to 21.25 Mc. With the T/R switch in "T" position, adjust grid tuning for maximum meter reading. This should occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L4, the oscillator plate coil for maximum meter reading.

(5) 10 Meters...set bandswitches to 28 Mc. and VFO to 29 Mc. With T/R switch in "T" position, adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed. Now adjust Coil L5, the oscillator plate coil, for maximum meter reading.

(6) 6 Meters...set bandswitches to 50 Mc. Insert a 6-meter crystal in upper crystal socket. Its frequency must be between 8334 and 9000 Kc., preferably somewhere in the lower part of this range. Switch to "T" position and adjust grid tuning for maximum meter reading. This will occur with the grid tuning capacitor about 25% meshed.

Step #3 - Final Power Amp. Adjustment

(1) Connect dummy load, 52 ohm impedance to antenna jack.

(2) Set neutralizing capacitor tentatively to about 25% mesh.

(3) Set bandswitches to 3.5 Mc., VFO dial to 3.8 Mc., tune grid circuit, as per preceding instructions. After peaking grid current (meter reading) with the grid tuning dial, set the drive control to position which provides a meter reading nearest to the "1G" range on the meter scale. On 80 meters, this will most likely be with drive in Position 1.

(4) Turn the loading control to minimum, CCW position. Now set the transmitter function switch to low power, and T/R switch to "T" position. Quickly adjust plate tuning for a sharp dip in meter reading (1P). Now switch to high power position. CAUTION: Dangerous voltages are present in the circuitry at this time. Keep hands out!

The output power indicator (watt meter) should now be indicating about 30 watts of power. Gradually increase the loading control, at the same time carefully tuning the plate control for meter dip, until the meter reads 150 to 160 MA. This is the operating range for A.M. phone in the high power position. Power input to the 6DQ5 is now approximately 100 watts.

(5) Repeat the above procedure on each of the other bands. Always keep the plate tuning adjusted for the dip in meter reading, particularly in the high power position, as the 6DQ5 can be seriously overloaded if this is not done.

(6) Neutralization. This adjustment must be a compromise, since it changes slightly between bands. Tentatively, make neutralizing checks on 15 meters first. Adjust the trimmer C30 until the meter reading does not increase sharply under modulation. Preferably, it should not increase at all. Grid tuning will have some reaction on this adjustment.

(7) 6-meter neutralization employs a feedback link which must also be adjusted for minimum increase of meter reading. This link is not a critical adjustment, but polarity must be correct. The twisted line which connects the links is color coded. If connected the wrong way, the amplifier will, of course, be extremely unstable on 6 meters.

(8) Modulation. Set the Mic. Gain to about its mid-point and insert a high impedance mike (Gonset 3240) in the jack. The swing in modulator plate current will not show on the front panel meter. The percentage of modulation should be checked by some external means.

(9) A test jack on the chassis rear may be used for metering grid current when final amp. is operating. Nominal grid current is 2 MA.

TRANSMITTER VOLTAGE CHART

14 Mc. Band - VFO Control

Tube	Pin Numbers								
	1	2	3	4	5	6	7	8	9
(Spot Switch UP)									
V1 12BY7A	0	-7	0	0	12.6AC	6.3AC	+110	+105	0
V2 12BY7A	0	-10	0	0	12.6AC	6.3AC	+12	+.5	0
(Tune Position - 6DQ5 and 6DQ6's not operating)									
V1 12BY7A	0	-11	0	0	12.6AC	6.3AC	+260	+150	0
V2 12BY7A	0	-15	0	0	12.6AC	6.3AC	+260	+100 Lo +140 M +210 Hi	0
V3 6DQ5	-50	0	0	-7	-50	0	6.3AC	-7	Cap -7
(Lo Power Position - 6DQ5 and 6DQ6's operating at med. voltage)									
V3 6DQ5	-43	0	+1	+55	-43	+1	6.3AC	+55	Cap Do not meas.
V12 12AX7	+100	0	+1	0	12.6AC	+84	-7	0	6.3AC
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +225
(Hi Power Position - 6DQ5 and 6DQ6's operating at high voltage)									
V3 6DQ5	-45	0	+4	+115	-45	+4	6.3AC	+115	Cap Do not meas.
V15-16 6DQ6's	0	12.6AC	X	130V RMS When Whistling Into Mike	0	0	6.3AC	0	Cap +625 (Caution)

RECEIVER VOLTAGE CHART

Tube	Pin Numbers 1	2	3	4	5	6	7	8	9
V4 6BZ6	-2.5	0	6.3*	0	+250	+140	0	---	---
V5 6U8A	+35	-2	+35	6.3*	0	+275	0	0	-2
V6 6BE6	-7	0	12.6*	6.3*	+265	+100	-2	---	---
V7 12BA6	-2.5	0	0	12.6*	-215	+85	+1.2	---	---
V8 12BA6	0	0	12.6*	0	+245	+70	+1.7	---	---
V9 12AL5	0	-1.6	0	9*	-.5	0	-2.7	---	---
V10 12AU7	+240	0	+85	0	12.6*	+40	0	+2	6.3*
V11 OB2	+105	0	0	0	+105	0	0	---	---
V12 12AX7	-.7	-.7	0	0	12.6*	+90	-.7	0	6.3*
V13 6CM6	+275	+17	0	12.6*	6.3*	0	+17	0	+265

Bandswitch at 14 Mc.
Receiver Function Switch at "AM CAL."
Transmitter Function Switch at "FIL OFF"
Antenna Disconnected.
*A.C. volts

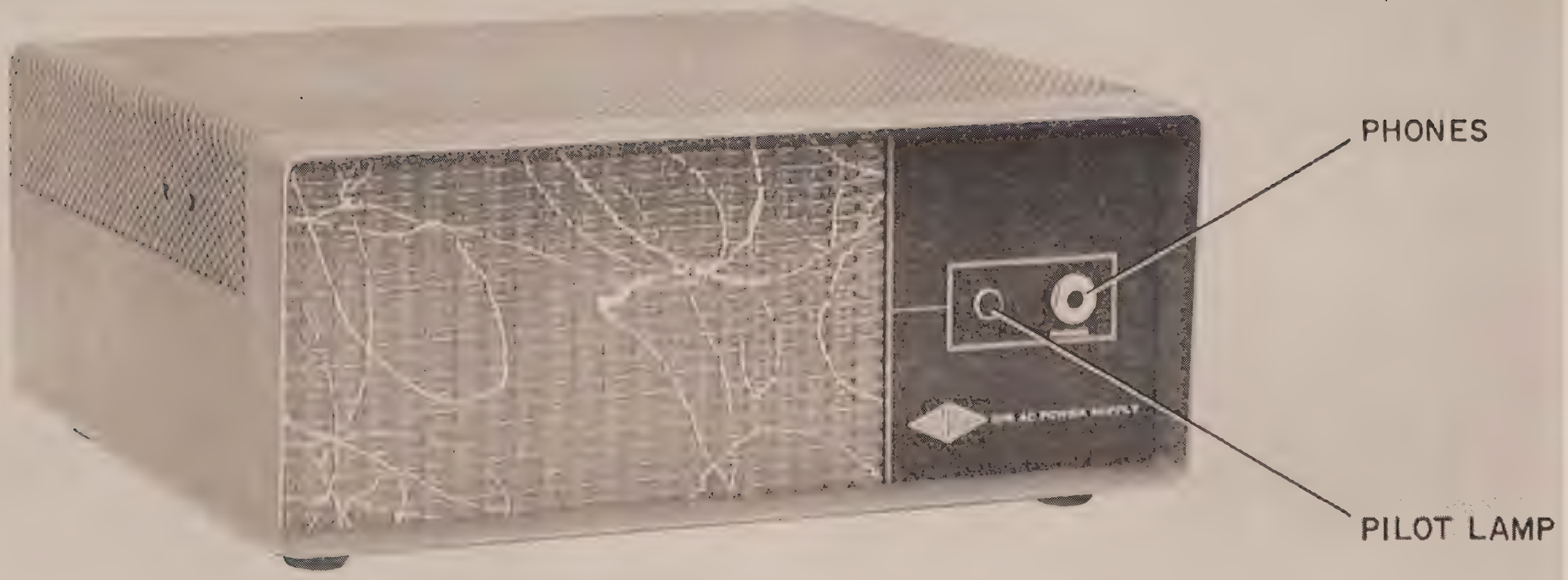


FIG. 6, A.C. POWER SUPPLY

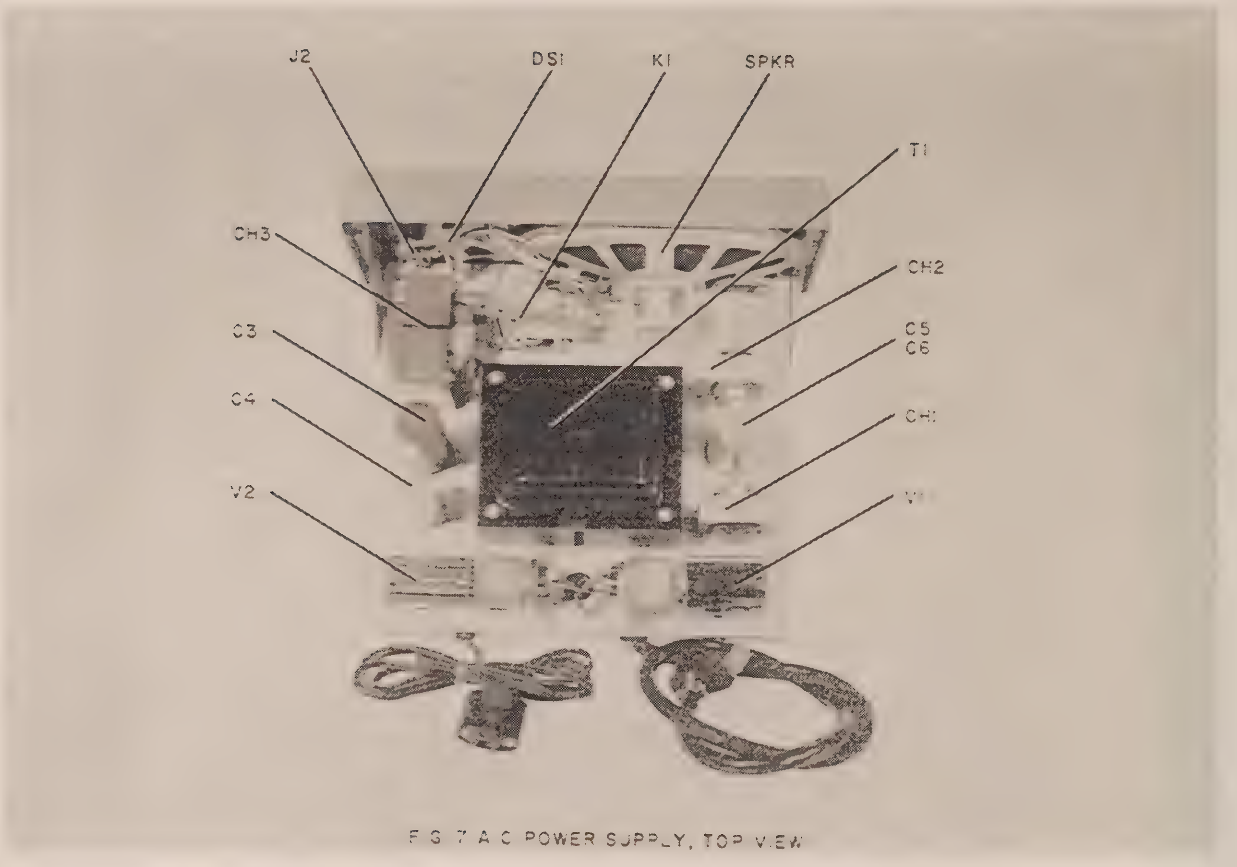


FIG. 7 A C POWER SUPPLY, TOP VIEW

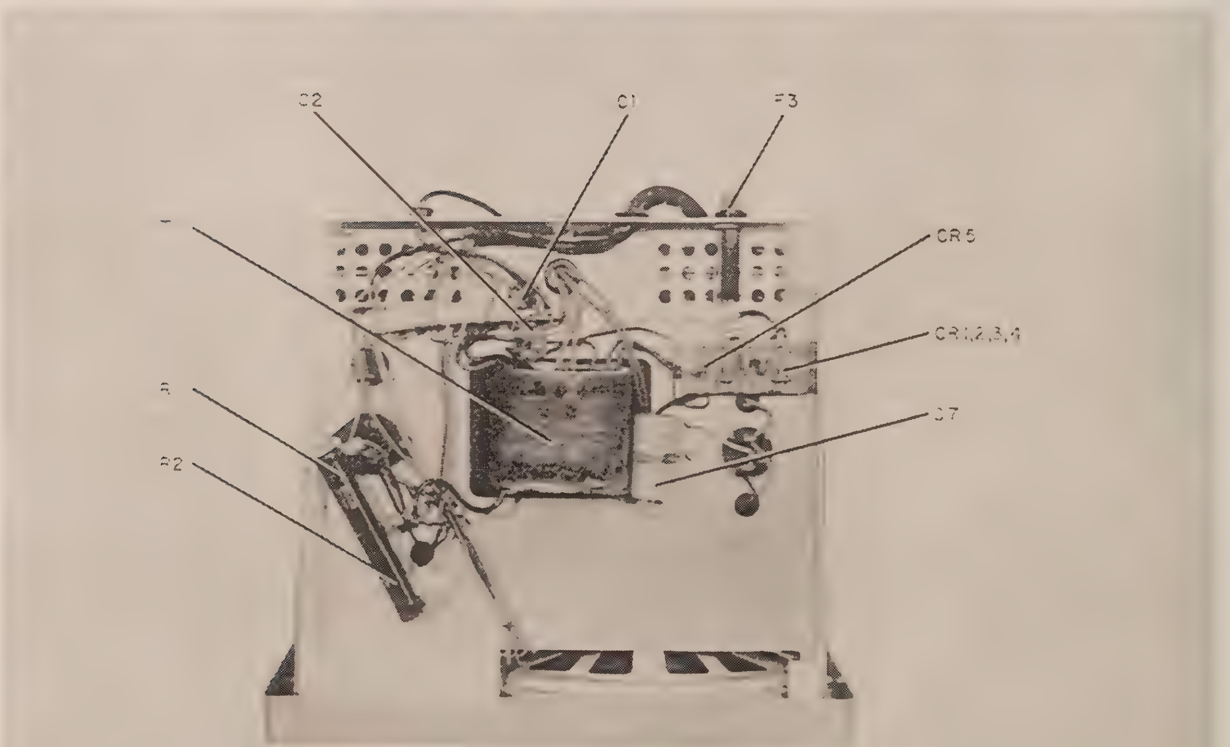
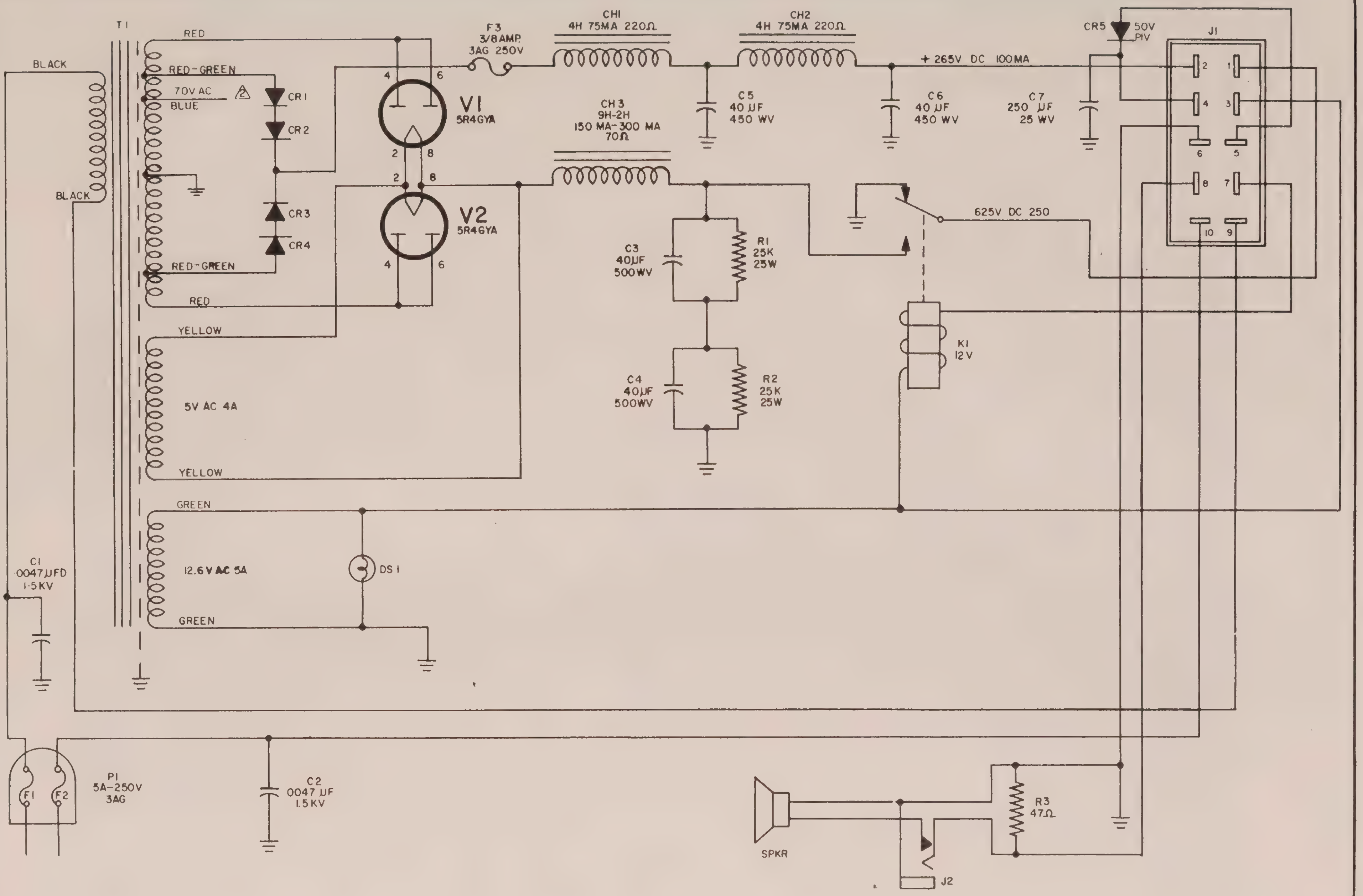


FIG. 8 A C POWER SUPPLY, BOTTOM VIEW



6. RIPPLE ON 265VDC LINE, .05 VRMS
5. % OF REGULATION ON 265VDC LINE, 10% (90MA-120MA)
4. RIPPLE ON 625 VDC, 5.0VRMS
3. % OF REGULATION ON 625 VDC LINE, 10% (50MA-250MA)
2. 70V AC NOT USED THIS CIRCUIT
1. J1 VIEWED FROM WIRING SIDE
NOTE:

G-76 AC POWER SUPPLY

510-086 6-28-60

LETT	CHANGE	APP	DATE
A	CHANGED LOCATION OF F3		11-10-6

G-76 AC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 117 VAC at 3 amps. Receive - 117 VAC at 1.5 amps.
High Voltage Output:	600 VDC at 250 MA. Regulations 10%, Ripple 5.0 VRMS
	265 VDC at 120 MA. Regulation 10%, Ripple .05 VRMS
Filament Output:	12.6 VAC @ 5 amps.
Dimensions:	12-5/8" wide, 5-1/8" high, 10-1/2" deep.
Fuses:	2-5 amp. 250 V. 3 AG 1-3/4 amp. 250 V. 3 AG

G-76 DC POWER SUPPLY SPECIFICATIONS

Power Requirements:	Transmit - 13.4 VDC at 22.5 amps. Receive - 13.4 VDC at 10 amps.
High Voltage Output:	600 VDC at 300 MA. Regulation 10%, Ripple 2.5 VRMS
	250 VDC at 130 MA. Regulation 10%, Ripple .8 VRMS.
Filament Output:	D.C. input carried through.
Dimensions:	8.18" wide, 3-1/2" high, 6-1/2" deep.
Fuses:	2-30 amp. suggested.

SHIPPING WEIGHT

D.C. Power Supply:	10 pounds
A.C. Power Supply:	32 pounds

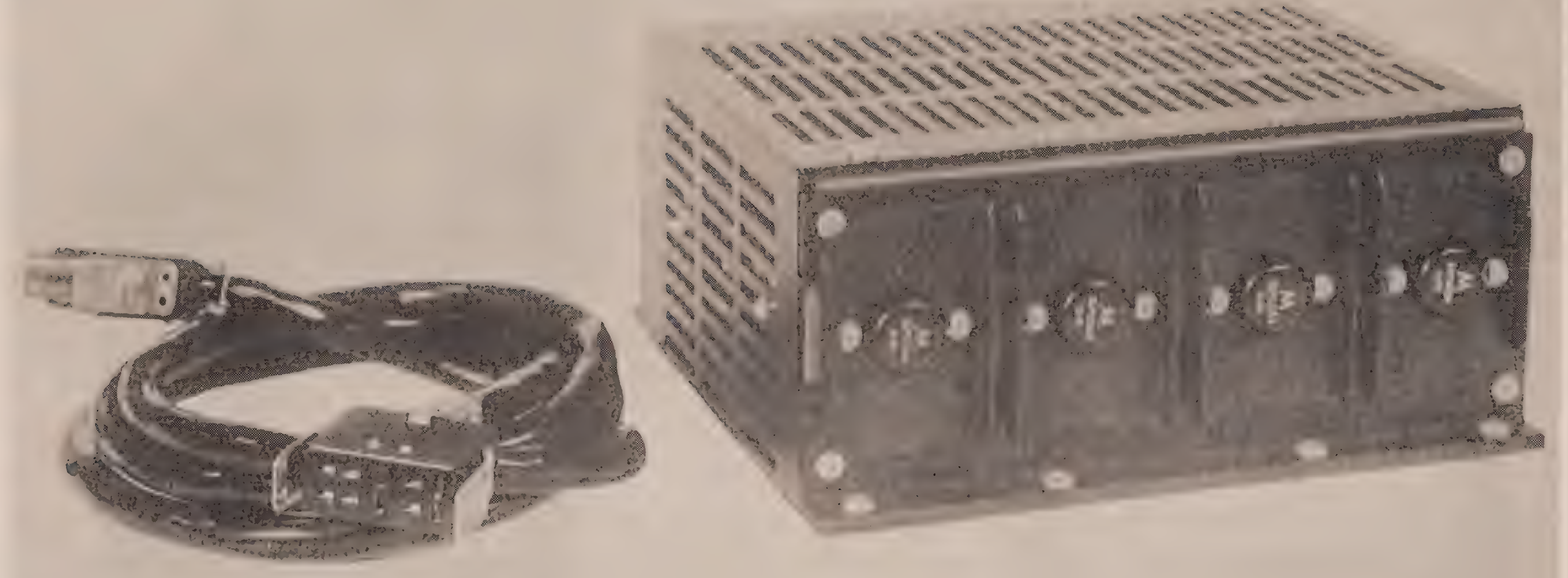


FIG. 9 D. C. POWER SUPPLY

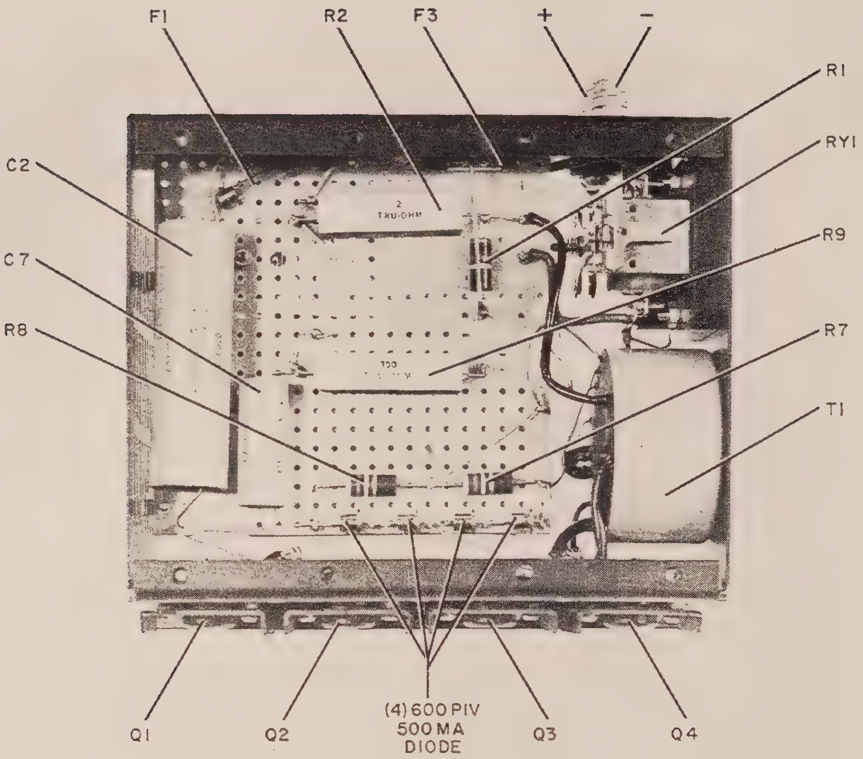


FIG. 10 D.C. POWER SUPPLY, TOP VIEW

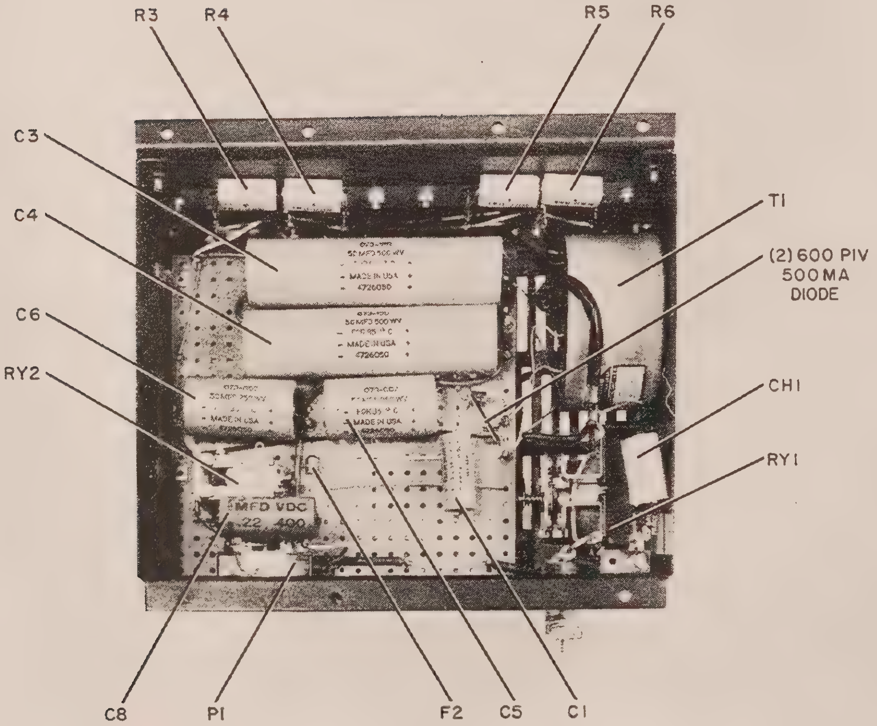
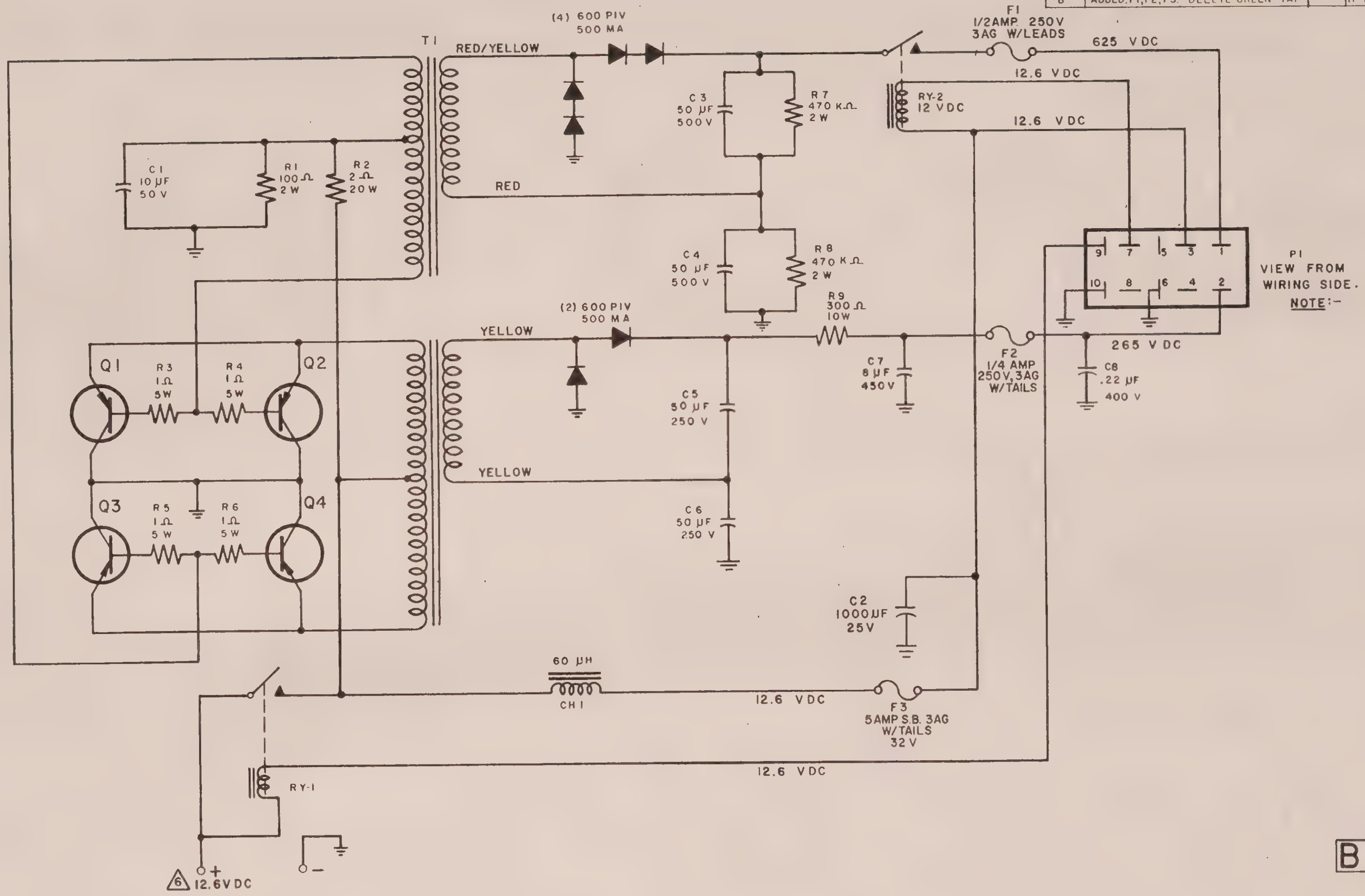


FIG. 11 D.C. POWER SUPPLY, BOTTOM VIEW

LET	REVISION	APP.	DATE
A	ADDED: C8.		
B	ADDED: F1, F2, F3.–DELETE GREEN TAP		11-10-60



B CHG

G-76 D.C. POWER SUPPLY

6 USE 13.4 VDC FOR TEST PURPOSES

4. RIPPLE ON 265VDC LINE .8VRMS
3. % OF REGULATION ON 265VDC LINE, 10% (130MA–95MA)
2. RIPPLE ON 650VDC LINE 2.5VRMS
1. % OF REGULATION ON 650VDC LINE, 10% (300MA–50MA)

NOTES:

510-085 6-21-60

MISCELLANEOUS COMPONENTS

Schematic No.	Description	Gonset Part No.
RFC 1	R-F Choke, 200 μH	027-017
RFC 2	R-F Choke, 200 μH	027-017
RFC 3	R-F Choke, 50 μH	027-018
RFC 4	R-F Choke, 200 μH	027-017
RFC 5	R-F Choke, 80 μH	027-081
RFC 6	R-F Choke, 200 μH	027-017
RFC 7	R-F Choke, 2.2 μH	027-053
S1	Band Switch Shaft Assembly only	171-110
S1A	Receiver Osc. Plate Wafer	171-111
S1B	Receiver Osc. Grid Wafer	171-112
S1C	Receiver Mixer Grid Wafer	171-112
S1D	Receiver R-F Plate Wafer	171-111
S1E	Transmitter Final Grid Wafer	171-113
S1F	Transmitter Osc Plate Wafer	171-113
S1G	VFO H-F Section	171-114
S1H	VFO L-F Section	171-114
S2	VFO-Crystal Switch DPDT	172-002
S3A-B	Osc. Spot Switch	172-045
S4	Drive Control Switch	171-106
S5	Bandswitch, Antenna Tuner Switch	171-108
S6	Receiver Function Switch	171-109
S7	Transmitter Function Switch	171-107
S8	Transmit-Receive Switch	172-010
S9	Power On-Off Switch	172-010
RL1 A-B-C	Relay 3P2T, 6 VDC	111-090
RL2 A-B-C	Relay 3P2T, 6 VDC	111-090
M1	Meter	112-035
J1	Antenna Connector Receptacle	344-011
J2	Grid Test Tip Jack	342-018
J3	Key Jack, Closed Circuit	342-001
J4	Speaker Jack, Closed Circuit	342-001
J5	Microphone Jack, 3-Circuit	342-002
P1	10-Pin Connector Receptacle	344-173
P2	Dual Crystal Socket	345-008
P3	Crystal Calibrator Accessory Socket	341-518
DS1	Dial Lamp #1815	471-004
SD1	Selenium Diode 92 PIV	475-012
Z1	Printed Noise Limiter Circuit	069-004

D.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1	100 Ω 2 watts	044-101
R2	2 Ω 20 watts	049-084
R3	1 Ω 5 watts	049-080
R4	1 Ω 5 watts	049-080
R5	1 Ω 5 watts	049-080
R6	1 Ω 5 watts	049-080
R7	470 KΩ 2 watts	044-474
R8	470 KΩ 2 watts	044-474
R9	300 Ω 10 watts	049-088
C1	10 μF 50 V.	073-131
C2	1000 μF 25 V.	073-132
C3	50 μF 500 V.	073-130
C4	50 μF 500 V.	073-130
C5	50 μF 250 V.	073-007
C6	50 μF 250 V.	073-007
C7	8 μF 450 V.	073-030
C8	.22 μF 400 V.	085-032
F1	1/2 Amp 250 V. 3 AG W/Leads	482-062
F2	1/4 Amp 250 V. 3 AG W/Leads	482-061
F3	5 Amp 32 V. 3 AG SB W/Leads	482-060
K1	Relay Input	111-095
K2	Relay B+	111-093
CH1	Hash Choke	027-027
T1	Transformer	271-082
CR1	Silicon Rectifier	474-022
CR2	Silicon Rectifier	474-022
CR3	Silicon Rectifier	474-022
CR4	Silicon Rectifier	474-022
CR5	Silicon Rectifier	474-022
CR6	Silicon Rectifier	474-022
Q1	Transistor	476-006
Q2	Transistor	476-006
Q3	Transistor	476-006
Q4	Transistor	476-006
P1	Power Connector	344-181
	Chassis Frame	443-065
	Top Plate	443-066
	Bottom Plate	443-067
	Power Cable	678-039

ELECTRON TUBES

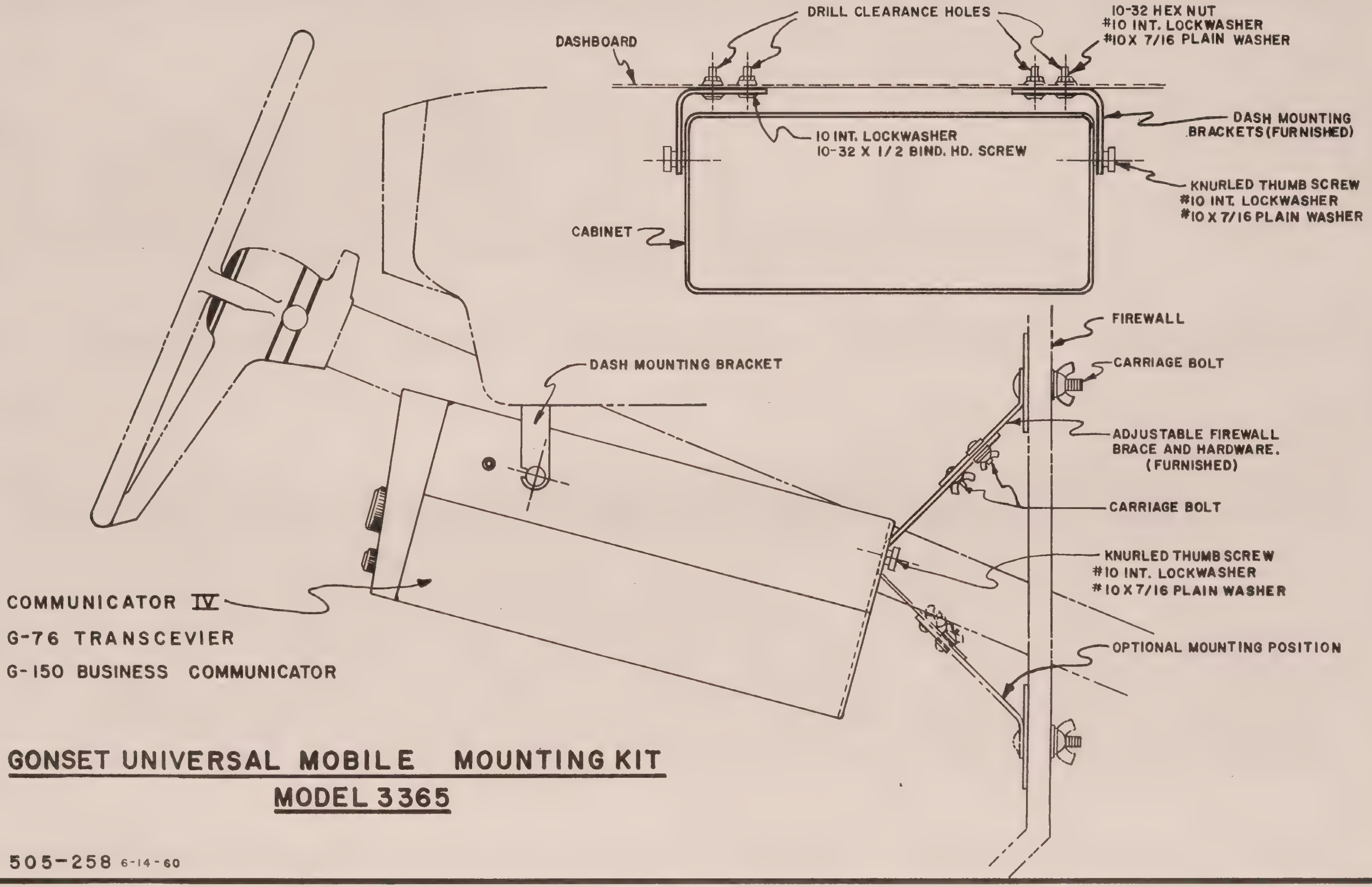
Schematic No.	Description	Gonset Part No.
V1	12BY7A	472-029
V2	12BY7A	472-029
V3	676G	472-101
V4	6BZ6	472-041
V5	6U8A	472-005
V6	6BE6	472-010
V7	12BA6	472-063
V8	12BA6	472-063
V9	12AL5	472-055
V10	12AU7A	472-094
V11	OA2	472-049
V12	12AX7	472-022
V13	6CM6	472-038
V14	6DQ6B	472-511
V15	6DQ6B	472-511
V16	OB2	472-032
V17	12AQ5	472-065
V18	OB2	472-032

A.C. POWER SUPPLY

Schematic No.	Description	Gonset Part No.
R1-2	50 KΩ 50 WCT	049-086
R3	47 Ω 1/2 watt	042-470
C1	.0047 μF 1.5 KV Disc	072-215
C2	.0047 μF 1.5 KV Disc	072-215
C3	40 μF 500 WVDC Insulated	073-129
C4	40 μF 500 WVDC	073-009
C5-6	2 x 40 μF 450 WVDC	073-029
C7	250 μF 25 WVDC	073-028
K1	Relay	111-092
CH1	Filter Choke	274-002
CH2	Filter Choke	274-002
CH3	Filter Choke	274-023
T1	Power Transformer	271-079
CR1	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR2	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR3	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR4	Silicon Rectifier 600 PIV @ 500 Ma.	474-022
CR5	Silicon Rectifier 50 PIV @ 500 Ma.	474-004
F1	5 Amp @ 250 V. 3 AG	482-002
F2	5 Amp @ 250 V. 3 AG	482-002
F3	3/8 Amp @ 250 V. 3 AG	482-063
V1	Tube 5R4GYA	472-535
V2	Tube 5R4GYA	472-535
	Cable Assembly	678-041
	A.C. Cord	696-014
	Speaker 2.3 Ω	152-020
	Pilot Light Assembly	351-041
	Front Panel Assembly	453-482
	Cabinet Weldment	465-085
	Phone Jack	342-001

REPLACEMENT PARTS LIST

Gonset Part No.	Description	No. Req.
212-019	Knob, With Pointer	1
263-630	Washer, Felt	1
211-006	Knob, Medium (W/Index)	9
211-007	Knob, Small (W/Index)	1
211-005	Knob, Large (W/Index)	1
212-004	Knob, Large	1
212-053	Knob, Medium	1
465-084	Cabinet Weldment	1
114-007	Planetary Drive Assembly (VFO)	1
351-040	Dial Lamp Socket	1
112-035	Meter	1
463-005	Bezel (Die Cast)	1
505-251	Front Panel	1
520-535	Instruction Manual	1
505-253	Dial Receiver	1
505-226	VFO Dial	1
505-267	Dial Window	1



GONSET UNIVERSAL MOBILE MOUNTING KIT
MODEL 3365

505-258 6-14-60

CAPACITORS

Schematic No.	Description	Gonset Part No.
C1	750 μμF Silver Mica, Tol. ±1%	088-182
C2	3000 μμF Silver Mica, Tol. ±2%	088-183
C4	3000 μμF Silver Mica, Tol. ±2%	088-183
C5A-B	2-Section Variable	074-120
C6	470 μμF Silver Mica, Tol. ±5%	088-016
C7	22 μμF Tubular N750, Tol. ±5%	084-238
C8	150 μμF Silver Mica, Tol. ±5%	088-077
C9	.01 μF Disc 500 V. GP	072-173
C10	200 μμF Disc GPSL Tol. ±5%	072-225
C11	30 μμF Disc GPSL Tol. ±10%	072-206
C12	50 μμF Disc GPSL Tol. ±5%	072-131
C14	.01 μF Disc 500 V. GP	072-173
C15	10 μμF Tubular GPSL Tol. ±1 μμF	071-008
C16	.01 μF Disc 300 V. GP	072-169
C17	.01 μF Disc 500 V. GP	072-173
C18	Variable Grid Tuning	074-113
C19	68 μμF Silver Mica, Tol. ±5%	088-188
C20	100 μμF Silver Mica, Tol. ±5%	088-017
C21	33 μμF Silver Mica, Tol. ±5%	088-079
C22	100 μμF Tubular GP Tol. ±10%	071-013
C23	470 μμF Silver Mica, Tol. ±5%	088-016
C24	.01 μF Disc 300 V. GP	072-169
C25	.001 μF Disc 3 KV, GP	072-223
C26	.01 μF Disc 500 V. GP	072-173
C27	.01 μF Disc 500 V. GP	072-173
C28	.001 μF Disc 3 KV GP	072-223
C29	.001 μF Disc 3 KV GP	072-223
C30	Variable, Neutralizing	074-084
C31	.001 μF Foil Mica 2.5 KV, Tol. ±20%	087-070
C32	Variable, Plate Tuning	074-047
C33	33 μμF Silver Mica 2.5 KV, Tol. ±20%	088-187
C34	33 μμF Silver Mica 2.5 KV, Tol. ±20%	088-187
C35	33 μμF Silver Mica 2.5 KV, Tol. ±20%	088-187
C36	300 μμF Silver Mica, Tol. ±10%	088-185
C37	2-Section Variable, Output Load	074-119
C38	5 μμF Disc 3 KV, Tol. ±20%	074-224
C39	2 μμF Tubular, Tol. ±10%	071-003
C40	50 μF Electrolytic @ 25 Volt	073-058
C41	.01 μF Disc 300 V. GP	072-169
C42	.01 μF Disc 300 V. GP	072-169
C43	.01 μF Disc 500 V. GP	072-173
C44	47 μμF Disc GPSL, Tol. ±3%	072-220
C45	39 μμF Disc GPSL, Tol. ±3%	072-221
C46A-B	2-Section Variable	074-126
C47	22 μμF Tubular N750, Tol. ±5%	084-238
C48	3 μμF Tubular, Tol. ±5%	071-069
C49	5 μμF Tubular NPO, Tol. ±.5 μμF	084-117
C50	10 μμF Tubular GPSL, Tol. ±10%	071-013
C51	47 μμF Disc GPSL, Tol. ±3%	072-220
C52	22 μμF Tubular N750, Tol. ±5%	084-238
C53	68 μμF Disc GPSL, Tol. ±5%	072-219
C54	56 μμF Disc GPSL, Tol. ±5%	072-218
C55	.01 μF Disc 500 V. GP	072-173
C56	2.2 μμF Tubular NPO, Tol. ±.5 μμF	084-083
C57	470 μμF Silver Mica, Tol. ±5%	088-016
C58	100 μμF Silver Mica, Tol. ±5%	088-017
C59	22 μμF Tubular N080, Tol. ±5%	084-252
C60	160 μμF Silver Mica, Tol. ±1%	088-008
C61	39 μμF Tubular N330, Tol. ±3%	084-253
C62	Variable, Dial Set	074-112
C63	5-25 μμF Rotary Trimmer NPO	089-032
C64	18 μμF Silver Mica, Tol. ±1%	088-197
C65	160 μμF Silver Mica, Tol. ±1%	088-008
C66	220 μμF Silver Mica, Tol. ±1%	088-190
C67	120 μμF Silver Mica, Tol. ±1%	088-191
C68	82 μμF Silver Mica, Tol. ±1%	088-001
C70	.01 μF Disc 500 V. GP	072-173
C71	.01 μF Disc 300 V. GP	072-169
C72	22 μμF Disc N470, Tol. ±5%	084-243
C73	100 μμF Tubular GP, Tol. ±10%	071-013
C74	.01 μF Disc 500 V. GP	072-173
C75	.01 μF Disc 500 V. GP	072-173
C76	.01 μF Disc 300 V. GP	072-169
C77	.01 μF Disc 500 V. GP	072-173
C78	.01 μF Disc 500 V. GP	072-173
C79	.01 μF Disc 500 V. GP	072-173
C80	.01 μF Disc 500 V. GP	072-173
C81	.1 μF Molded Tubular 200 V., Tol. ±20%	085-002
C82	.01 μF Disc 300 V. GP	072-169
C83	100 μμF Disc GP, Tol. ±10%	071-013
C84	.001 μF Disc GP	072-108
C85	1.5 μμF Tubular NPO, Tol. ±.5 μμF	084-025
C86	100 μμF Tubular GP, Tol. ±10%	071-013
C87	.1 μF Molded Tubular 400 V., Tol. ±20%	085-005
C88	470 μμF Disc GP, Tol. ±20%	072-213
C89	25 μF Electrolytic 25 V.	073-127
C90	.01 μF Disc 500 V. GP	072-173
C91	470 μμF Disc GP, Tol. ±20%	072-213
C92	.001 μF Disc GP	072-108
C93	.001 μF Disc GP	072-108
C94	100 μμF Tubular GP, Tol. ±20%.	072-213
C95	.01 μF Disc 300 V. GP	072-169
C96	.1 μF Molded Tubular 400 V., Tol. ±20%	085-005
C97	.001 μF Disc GP	072-108
C98	25 μF Electrolytic 25 V.	073-127
C99	.0022 μF Molded Tubular, 3 KV, Tol. ±20%	085-095
C100	Variable, BFO Pitch	074-115
C101	.01 μF Disc, 500 V., GP	072-173
C102	.001 ±20% Disc, Ceramic	072-108
C103	500 μμF DM15 ±5%	088-081
C104	82 μμF DM15 ±5%	088-002
C105	100 μμF N750 ±120 Tol. .100 μμF	084-271
C106	5 μμF NPO	084-117
C107	5 μμF NPO	084-117
C108	5 μμF NPO	084-117
C109	.001 μμF ±20% Disc, Ceramic	072-108
C110	.01 μF Disc @ 500 V. GP	072-173

RESISTORS

(All resistors 1/2 watt composition Tol.±10% unless otherwise specified)

Schematic No.	Description	Gonset Part No.
R1	27 Ω	042-270
R2	33 KΩ	042-333
R3	3500 Ω 7 watt Wire wound, Tol.±20%	049-001
R4	10 KΩ 1 watt	043-103
R5	270 KΩ	042-274
R6	68 KΩ	042-683
R7	22 KΩ 1 watt	043-223
R8	4700 Ω 1 watt	043-472
R9	47 Ω	042-470
R10	15 KΩ	042-153
R11	1000 Ω	042-102
R12	27 KΩ 1 watt	043-273
R13	220 Ω 2 watt (part of L13)	044-221
R15	47 KΩ 2 watt	044-473
R16	22 Ω 1 watt, Tol. ±5%	047-220
R17	3.9 KΩ 1/2 watt, Tol. ±5%	046-392
R18	470 KΩ	042-474
R19	100 KΩ	042-104
R20	27 Ω	042-270
R21	10 KΩ	042-103
R22	22 KΩ	042-223
R23	33 KΩ	042-333
R24	7000 Ω 10 watt Wire wound, Tol. ±10%	049-083
R25	1000 Ω	042-102
R26	100 KΩ	042-104
R27	4.7 meg. Ω	042-475
R28	100 KΩ	042-104
R29	22 KΩ	042-223
R30	10 Ω	042-100
R31	4700 Ω	042-472
R32	270 Ω	042-271
R33	47 KΩ 1 watt	043-473
R34	10 KΩ	042-103
R35	270 Ω	042-271
R36	100 KΩ	042-104
R37	27 KΩ	042-273
R38A	10 KΩ R38B 1 meg.Ω Dual Potentiometer	052-101
R39	68 KΩ 2 watt	044-683
R40	47 KΩ 1 watt	043-473
R41	10 KΩ	042-103
R42	47 KΩ	042-473
R43	270 KΩ	042-274
R44	270 KΩ	042-274
R45	2700 Ω	042-272
R46	680 KΩ	042-684
R47	47 KΩ	042-473
R48	27 KΩ	042-273
R49	27 KΩ	042-273
R50	470 KΩ	042-474
R51	2700 Ω	042-272
R52	250 KΩ Potentiometer (Mike Gain)	052-102
R53	47 KΩ	042-473
R54	680 KΩ	042-684
R55	2.2 meg.Ω	042-225
R56	270 KΩ	042-274
R57	470 KΩ	042-474
R58	470 Ω 1 watt	043-471
R59	27 KΩ	042-273
R60	100 KΩ	042-104
R61	15 Ω 1/2 watt Wire wound, Tol. ±5%	058-150
R62	15 Ω 1/2 watt Wire wound, Tol. ±5%	058-150
R63	22 Ω 2 watt	044-220
R64	2700 Ω	042-272
R65	68 KΩ 2 watt	044-683
R66	20 KΩ Potentiometer (Meter Zero)	052-103
R67	10 KΩ	042-103
R68	10 Ω	042-100
R69	10 Ω	042-100
R70	220 K 1/2 watt ±10%	042-224
R71	100 ohm 1/2 watt ±10%	042-010
R72	100 K 1/2 watt ±10% Composition	042-104
R73	100 K 1/2 watt ±10% Composition	042-104
R74	100 K 1/2 watt ±10% Composition	042-104
R75	100 K 1/2 watt ±10% Composition	042-104
R76	220 K 1/2 watt ±10% Composition	042-224
R77	2.2 K 1/2 watt ±10% Composition	042-222
R78	22 KΩ 2 watt	044-223
R79	47 KΩ 2 watt	044-473
L1	VFO Coil, 1.75 Mc. - 2 Mc.	012-464
L2	VFO Coil, 7 Mc. - 7.425 Mc.	012-465
L3	Oscillator Plate Coil	012-449
L4	Oscillator Plate Coil	012-449
L5	Oscillator Plate Coil	012-450
L7	Final Grid Coil	012-452
L8	Final Grid Coil	012-453
L9	Final Grid Coil	012-454
L10	Final Grid Coil	012-454
L11	Final Grid Coil	012-455
L12	Final Grid Coil	012-472
L13	Parasitic Coil (wound on R13)	026-011
L14	H-F Final Plate Coil	012-471
L15	L-F Final Plate Coil	012-504
L16	Receiver Mixer Coil 80-M	012-452
L17	Receiver Mixer Coil 40-M	012-449
L18	Receiver Mixer Coil 20-M	012-456
L19	Receiver Mixer Coil 15-M	012-451
L20	Receiver Mixer Coil 10-M	012-451
L21	Receiver Mixer Coil 6-M	012-457
L22	Receiver Oscillator Coil 80-M	012-462
L23	Receiver Oscillator Coil 40-M	012-463
L24	Receiver Oscillator Coil 20-M	012-458
L25	Receiver Oscillator Coil 15-M	012-459
L26	Receiver Oscillator Coil 10-M	012-460
L27	Receiver Oscillator Coil 6-M	012-461
T1	I-F Transformer, 2065 Kc.	014-008
T2	Oscillator Coil, 2327 Kc.	014-059
T3	I-F Transformer, 262 Kc.	014-080
T4	I-F Transformer, 262 Kc.	014-080
T5	I-F Transformer, 262 Kc.	014-080
T6	BFO Transformer, 262 Kc.	014-058
T7	Audio Driver Transformer	273-013
T8	Modulation Transformer	273-014